

Form 3160-3
(October 2024)FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-015-57692
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 11/21/2025

Additional Operator Remarks

Location of Well

0. SHL: NWSE / 2425 FSL / 2293 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.289871 / LONG: -103.850394 (TVD: 0 feet, MD: 0 feet)
PPP: SENE / 2540 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.290743 / LONG: -103.844044 (TVD: 10160 feet, MD: 10452 feet)
PPP: SESE / 0 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.297725 / LONG: -103.844063 (TVD: 10300 feet, MD: 12992 feet)
PPP: SESE / 0 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.31225 / LONG: -103.844033 (TVD: 10300 feet, MD: 18272 feet)
BHL: NENE / 50 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.326636 / LONG: -103.844014 (TVD: 10300 feet, MD: 23407 feet)

BLM Point of Contact

Name: JANET D ESTES
Title: ADJUDICATOR
Phone: (575) 234-6233
Email: JESTES@BLM.GOV

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	☒ Initial Submittal
			☐ Amended Report
			☐ As Drilled

WELL LOCATION INFORMATION

API Number 30-015- 57692	Pool Code 24720 96526	Pool Name Forty Niner Ridge; Bone Spring West
Property Code 336009	Property Name THUNDERDOME FED COM	Well Number 523H
OGRID No. 217817	Operator Name CONOCOPHILLIPS COMPANY	Ground Level Elevation 3,260.19'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL J	Section 23	Township 23S	Range 30E	Lot	Ft. from N/S 2,425' FSL	Ft. from E/W 2,293' FEL	Latitude 32.289871°	Longitude -103.850394°	County EDDY
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Bottom Hole Location

UL A	Section 11	Township 23S	Range 30E	Lot	Ft. from N/S 50' FNL	Ft. from E/W 330' FEL	Latitude 32.326636°	Longitude -103.844014°	County EDDY
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Dedicated Acres 1600	Infill or Defining Well Infill	Defining Well API Pending 504H	Overlapping Spacing Unit (Y/N)	Consolidation Code Com
Order Numbers.			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL J	Section 23	Township 23S	Range 30E	Lot	Ft. from N/S 2,425' FSL	Ft. from E/W 2,293' FEL	Latitude 32.289871°	Longitude -103.850394°	County EDDY
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First Take Point (FTP)

UL H	Section 23	Township 23S	Range 30E	Lot	Ft. from N/S 2,540' FNL	Ft. from E/W 330' FEL	Latitude 32.290743°	Longitude -103.844044°	County EDDY
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Last Take Point (LTP)

UL A	Section 11	Township 23S	Range 30E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 330' FEL	Latitude 32.326498°	Longitude -103.844014°	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  Date: 2/24/2025	
Signature 	Date 9/17/2025	Signature and Seal of Professional Surveyor	
Printed Name Stan Wagner	Email Address	Certificate Number 12177	Date of Survey 2/24/2025

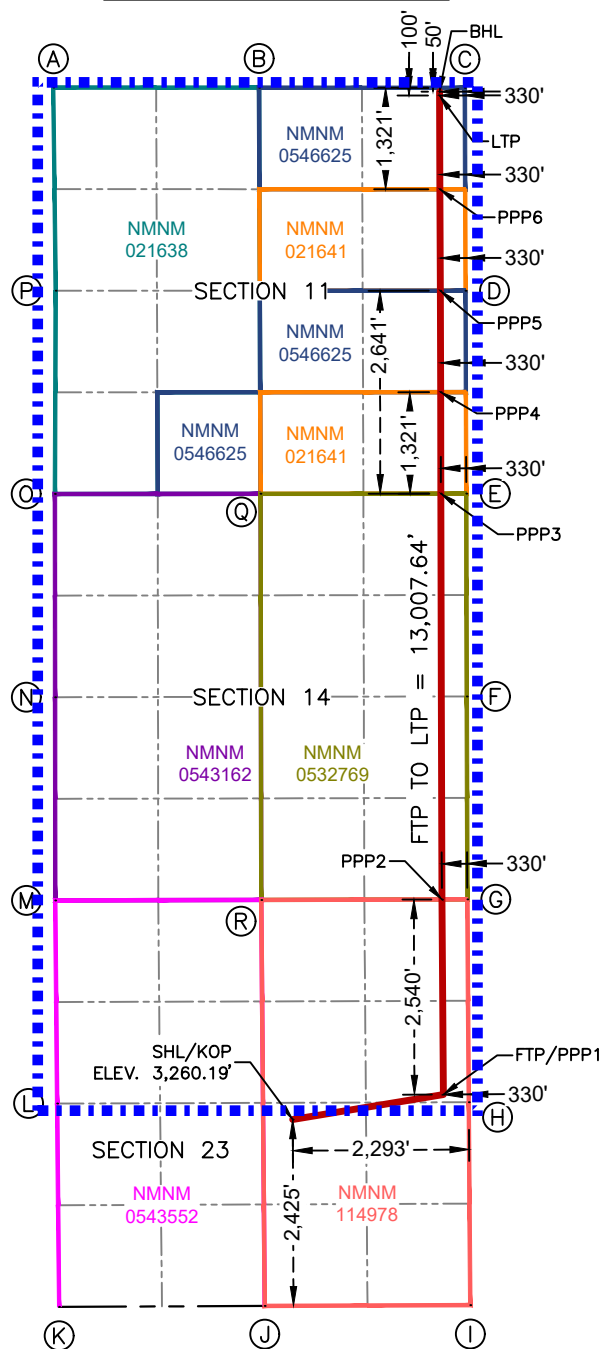
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

THUNDERDOME FED COM 523H

SURFACE HOLE LOCATION
& KICK-OFF POINT

2,425' FSL & 2,293' FEL
ELEV.=3,260.19'
NAD 83 X = 690,570.85'
NAD 83 Y = 469,523.91'
NAD 83 LAT = 32.289871°
NAD 83 LONG = -103.850394°

PENETRATION POINT 5
2,641' FSL & 330' FEL

NAD 83 X = 692,493.23'
NAD 83 Y = 480,315.21'
NAD 83 LAT = 32.319510°
NAD 83 LONG = -103.844014°

FIRST TAKE POINT &
PENETRATION POINT 1
2,540' FNL & 330' FEL

NAD 83 X = 692,531.56'
NAD 83 Y = 469,849.93'
NAD 83 LAT = 32.290743°
NAD 83 LONG = -103.844044°

PENETRATION POINT 6
1,321' FNL & 330' FEL

NAD 83 X = 692,487.04'
NAD 83 Y = 481,636.33'
NAD 83 LAT = 32.323142°
NAD 83 LONG = -103.844014°

PENETRATION POINT 2
0' FNL & 330' FEL

NAD 83 X = 692,514.23'
NAD 83 Y = 472,389.89'
NAD 83 LAT = 32.297725°
NAD 83 LONG = -103.844063°

LAST TAKE POINT
100' FNL & 330' FEL

NAD 83 X = 692,481.33'
NAD 83 Y = 482,857.45'
NAD 83 LAT = 32.326498°
NAD 83 LONG = -103.844014°

PENETRATION POINT 3
0' FNL & 330' FEL

NAD 83 X = 692,499.39'
NAD 83 Y = 477,673.93'
NAD 83 LAT = 32.312250°
NAD 83 LONG = -103.844033°

BOTTOM HOLE LOCATION
50' FNL & 330' FEL

NAD 83 X = 692,481.15'
NAD 83 Y = 482,907.45'
NAD 83 LAT = 32.326636°
NAD 83 LONG = -103.844014°

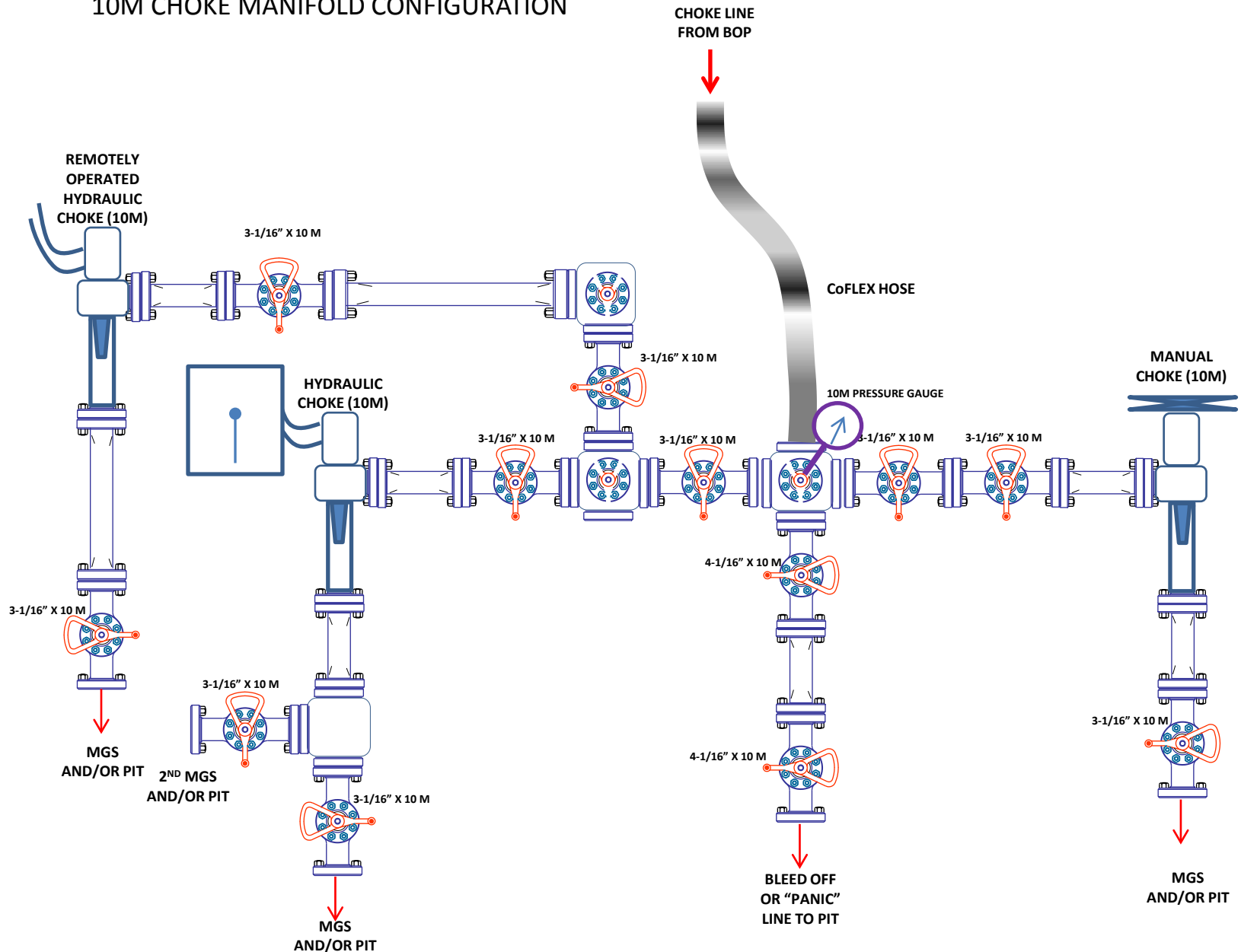
PENETRATION POINT 4
1,321' FSL & 330' FEL

NAD 83 X = 692,496.31'
NAD 83 Y = 478,994.62'
NAD 83 LAT = 32.315880°
NAD 83 LONG = -103.844023°

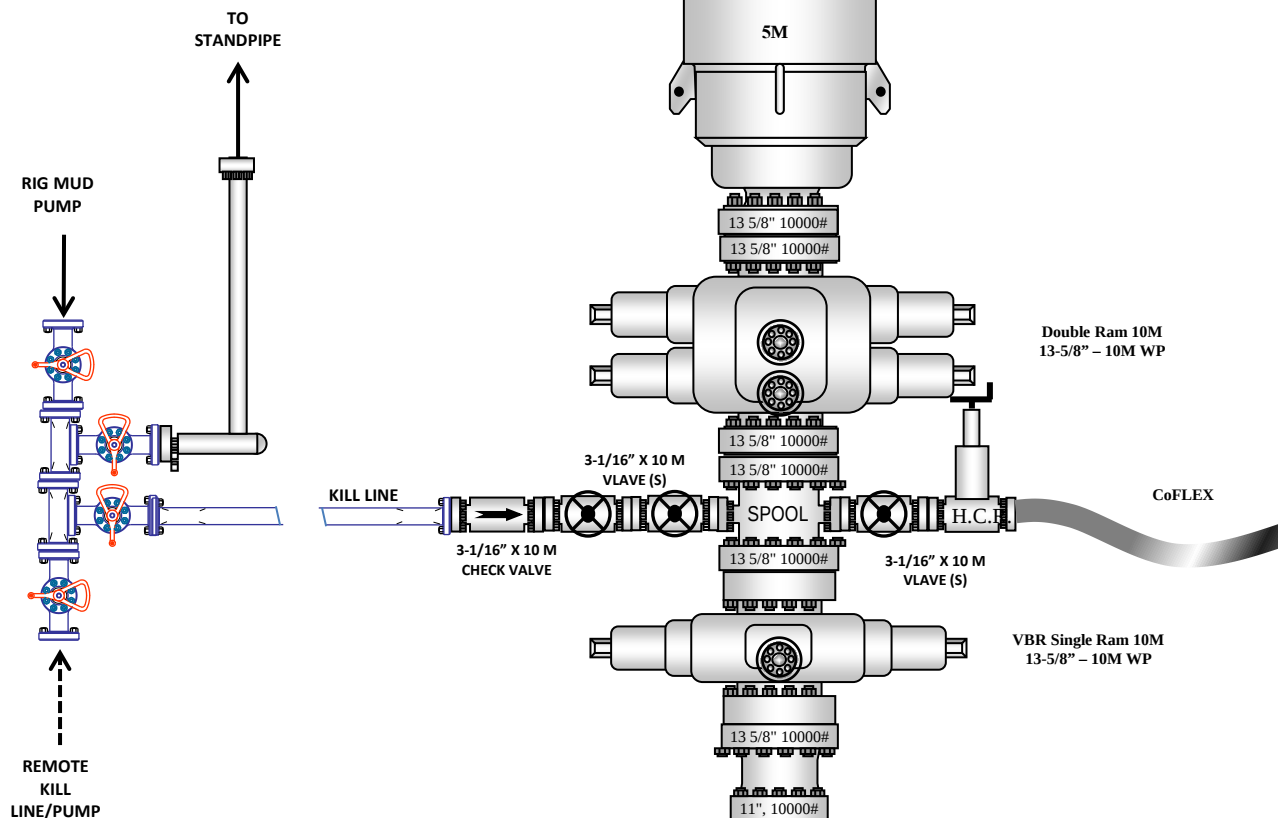
CORNER COORDINATES
NEW MEXICO EAST - NAD 83

A	CALCULATED CORNER N:482,961.73' E:687,453.38'	F	1" MONUMENT N:475,033.03' E:692,835.76'	K	IRON ROD W/CAP N:467,084.70' E:687,530.34'	P	CALCULATED CORNER N:480,315.52' E:687,485.82'
B	IRON ROD W/CAP N:482,959.45' E:690,132.18'	G	IRON ROD W/CAP N:472,390.77' E:692,844.23'	L	IRON ROD W/CAP N:469,732.12' E:687,504.28'	Q	BENT IRON ROD W/CAP N:477,671.15' E:690,152.19'
C	IRON ROD W/CAP N:482,957.17' E:692,810.98'	H	IRON ROD W/CAP N:469,750.12' E:692,862.25'	M	IRON ROD W/CAP N:472,376.66' E:687,479.54'	R	BENT IRON ROD W/CAP N:472,383.64' E:690,161.18'
D	1" MONUMENT N:480,315.20' E:692,820.19'	I	CALCULATED CORNER N:467,108.30' E:692,881.70'	N	CALCULATED CORNER N:475,022.92' E:687,477.28'		
E	1" MONUMENT N:477,674.32' E:692,829.30'	J	IRON ROD W/CAP N:467,097.47' E:690,206.32'	O	BENT IRON ROD W/CAP N:477,669.34' E:687,475.07'		

10M CHOKE MANIFOLD CONFIGURATION



10M REMOTE KILL SCHEMATIC



COG Operating, LLC - Thunderdome Fed Com #523H**1. Geologic Formations**

TVD of target	10,300' EOL	Pilot hole depth	NA
MD at TD:	23,407'	Deepest expected fresh water:	103'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	143	Water	
Top of Salt	483	Salt	
USGS Marker Bed 126	1285	Salt	
Base of Salt	3634	Salt Water	
Lamar	3809	Salt Water	
Bell Canyon	3886	Oil/Gas	
Brushy Canyon	6100	Oil/Gas	
Bone Spring Lime	7705	Oil/Gas	
1st Bone Spring Sand	8756	Oil/Gas	
2nd Bone Spring Sand	9453	Oil/Gas	
3rd Bone Spring Sand	9939	Target	

Potash well archetype: 4-String Design Open 1st Int x 2nd Int Annulus w/ ICP 2 below relief zone (Figure D). Sundry aims to comply with R-111-Q as passed on 5/10/2024.

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	200	13.375"	54.5	J55	BTC	12.35	38.17	78.26	83.39
12.25"	0	3759	10.75"	45.5	J55	BTC	1.26	1.81	6.41	6.08
9.875"	0	7500	7.625"	29.7	L80-ICY	BTC	1.71	1.18	3.26	3.29
8.750"	7500	9977	7.625"	29.7	P110 ICY	W513	1.39	1.53	3.17	1.88
6.75"	0	9777	5.5"	23	P110 CY	BTC	2.12	2.47	3.24	3.22
6.75"	9777	23,407	5.5"	23	P110 CY	W441	2.01	2.34	3.08	2.98
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5 1/2" wedge casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

Intend to use new casing meeting API standards.

COG Operating, LLC - Thunderdome Fed Com #523H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	N
Is 2 nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

COG Operating, LLC - Thunderdome Fed Com #523H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf	119	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter 1	470	12.8	2.26	12.84	12	Lead: Class C + 5% Gel + 1% CaCl ₂
	250	14.8	1.2	5.35	10	50:50 Class H Premium
Inter 2						
	354	14.8	1.35	6.6	10	Tail: Class H - Single Slurry
Prod						
	1069	13.2	1.24	5.7	19	Tail: 50:50:2 Class H Blend Single Slurry

Intermediate #1 Salt string cemented to surface. Drill out to wait for 500PSI compressive strength.

Intermediate #2 long string cemented Tail single slurry leaving Brushy Canyon Delaware Mountain group open as a relief zone. Section to be monitored during completions, and then Bradenhead cemented after completion is complete within 180 days to tie back. Drill out of intermediate to wait for 500psi compressive strength.

Production cement tied back 1000' into intermediate 2 string but not above engineered weak point with minimal excess to ensure annulus remains open.

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
2nd Intermediate	4,759'	0%
Production	8,977'	10% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #523H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested for the use of BOPE break testing on intermediate skids (in accordance with the 30 day full BOPE test requirements).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12 1/4"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Thunderdome Fed Com #523H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	9.8 - 10	28-34	N/C
Surf csg	10 3/4" Int 1 shoe	Saturated Brine	10	28-34	N/C
10 3/4" Int1 shoe	7-5/8" Int 2 shoe	Cut Brine	8.4 - 9.3	28-34	N/C
7-5/8" Int 2 shoe	Lateral TD	OBM	9.6 - 13.5	35-45	<20

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Thunderdome Fed Com #523H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7235 psi at 10300' TVD
Abnormal Temperature	NO 160 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

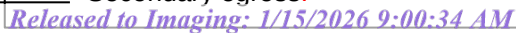
N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)

THUNDERDOME PROJECT

_THUNDERDOME FED COM 523H

OWB

Plan: PWP0

Standard Planning Report

29 April, 2025

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project	ATLAS PROSPECT (DBW)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	THUNDERDOME PROJECT		
Site Position:		Northing:	469,664.63 usft
From:	Map	Easting:	649,012.95 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 25.094 N
		Longitude:	103° 51' 4.015 W

Well	_THUNDERDOME FED COM 523H					
Well Position	+N/-S	0.0 usft	Northing:	469,464.60 usft	Latitude:	32° 17' 23.098 N
	+E/-W	0.0 usft	Easting:	649,387.19 usft	Longitude:	103° 50' 59.665 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,243.0 usft
Grid Convergence:		0.26 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2024	2/25/2025	6.52	59.89	47,269.08175930

Design	PWP0				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	8.13	

Plan Survey Tool Program	Date	2/25/2025			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	23,407.2 PWP0 (OWB)	r.5 MWD+IFR1		
			OWSG MWD + IFR1 rev.5		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,767.5	15.35	80.59	1,758.3	16.7	100.8	2.00	2.00	0.00	80.59	
8,119.1	15.35	80.59	7,883.4	291.5	1,759.5	0.00	0.00	0.00	0.00	
9,654.0	0.00	0.00	9,400.0	324.9	1,961.1	1.00	-1.00	0.00	180.00	
10,076.5	0.00	0.00	9,822.5	324.9	1,961.1	0.00	0.00	0.00	0.00	
10,826.5	90.00	359.78	10,300.0	802.4	1,959.3	12.00	12.00	-0.03	359.78	
23,407.2	90.00	359.78	10,300.0	13,383.0	1,911.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ THUNDERDOME FED COM 523H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_ THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	2.00	80.59	1,100.0	0.3	1.7	0.5	2.00	2.00	0.00
1,200.0	4.00	80.59	1,199.8	1.1	6.9	2.1	2.00	2.00	0.00
1,300.0	6.00	80.59	1,299.5	2.6	15.5	4.7	2.00	2.00	0.00
1,400.0	8.00	80.59	1,398.7	4.6	27.5	8.4	2.00	2.00	0.00
1,500.0	10.00	80.59	1,497.5	7.1	42.9	13.1	2.00	2.00	0.00
1,600.0	12.00	80.59	1,595.6	10.2	61.8	18.9	2.00	2.00	0.00
1,700.0	14.00	80.59	1,693.1	13.9	84.0	25.6	2.00	2.00	0.00
1,767.5	15.35	80.59	1,758.3	16.7	100.8	30.8	2.00	2.00	0.00
1,800.0	15.35	80.59	1,789.7	18.1	109.3	33.4	0.00	0.00	0.00
1,900.0	15.35	80.59	1,886.1	22.4	135.4	41.4	0.00	0.00	0.00
2,000.0	15.35	80.59	1,982.6	26.8	161.5	49.3	0.00	0.00	0.00
2,100.0	15.35	80.59	2,079.0	31.1	187.7	57.3	0.00	0.00	0.00
2,200.0	15.35	80.59	2,175.4	35.4	213.8	65.3	0.00	0.00	0.00
2,300.0	15.35	80.59	2,271.9	39.7	239.9	73.3	0.00	0.00	0.00
2,400.0	15.35	80.59	2,368.3	44.1	266.0	81.2	0.00	0.00	0.00
2,500.0	15.35	80.59	2,464.7	48.4	292.1	89.2	0.00	0.00	0.00
2,600.0	15.35	80.59	2,561.2	52.7	318.2	97.2	0.00	0.00	0.00
2,700.0	15.35	80.59	2,657.6	57.0	344.3	105.2	0.00	0.00	0.00
2,800.0	15.35	80.59	2,754.0	61.4	370.4	113.1	0.00	0.00	0.00
2,900.0	15.35	80.59	2,850.5	65.7	396.6	121.1	0.00	0.00	0.00
3,000.0	15.35	80.59	2,946.9	70.0	422.7	129.1	0.00	0.00	0.00
3,100.0	15.35	80.59	3,043.3	74.4	448.8	137.1	0.00	0.00	0.00
3,200.0	15.35	80.59	3,139.8	78.7	474.9	145.0	0.00	0.00	0.00
3,300.0	15.35	80.59	3,236.2	83.0	501.0	153.0	0.00	0.00	0.00
3,400.0	15.35	80.59	3,332.6	87.3	527.1	161.0	0.00	0.00	0.00
3,500.0	15.35	80.59	3,429.1	91.7	553.2	168.9	0.00	0.00	0.00
3,600.0	15.35	80.59	3,525.5	96.0	579.4	176.9	0.00	0.00	0.00
3,700.0	15.35	80.59	3,621.9	100.3	605.5	184.9	0.00	0.00	0.00
3,800.0	15.35	80.59	3,718.4	104.6	631.6	192.9	0.00	0.00	0.00
3,900.0	15.35	80.59	3,814.8	109.0	657.7	200.8	0.00	0.00	0.00
4,000.0	15.35	80.59	3,911.2	113.3	683.8	208.8	0.00	0.00	0.00
4,100.0	15.35	80.59	4,007.7	117.6	709.9	216.8	0.00	0.00	0.00
4,200.0	15.35	80.59	4,104.1	121.9	736.0	224.8	0.00	0.00	0.00
4,300.0	15.35	80.59	4,200.5	126.3	762.2	232.7	0.00	0.00	0.00
4,400.0	15.35	80.59	4,297.0	130.6	788.3	240.7	0.00	0.00	0.00
4,500.0	15.35	80.59	4,393.4	134.9	814.4	248.7	0.00	0.00	0.00
4,600.0	15.35	80.59	4,489.8	139.3	840.5	256.7	0.00	0.00	0.00
4,700.0	15.35	80.59	4,586.3	143.6	866.6	264.6	0.00	0.00	0.00
4,800.0	15.35	80.59	4,682.7	147.9	892.7	272.6	0.00	0.00	0.00
4,900.0	15.35	80.59	4,779.1	152.2	918.8	280.6	0.00	0.00	0.00
5,000.0	15.35	80.59	4,875.6	156.6	945.0	288.6	0.00	0.00	0.00
5,100.0	15.35	80.59	4,972.0	160.9	971.1	296.5	0.00	0.00	0.00
5,200.0	15.35	80.59	5,068.4	165.2	997.2	304.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ THUNDERDOME FED COM 523H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_ THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,300.0	15.35	80.59	5,164.9	169.5	1,023.3	312.5	0.00	0.00	0.00	
5,400.0	15.35	80.59	5,261.3	173.9	1,049.4	320.5	0.00	0.00	0.00	
5,500.0	15.35	80.59	5,357.7	178.2	1,075.5	328.4	0.00	0.00	0.00	
5,600.0	15.35	80.59	5,454.2	182.5	1,101.6	336.4	0.00	0.00	0.00	
5,700.0	15.35	80.59	5,550.6	186.8	1,127.8	344.4	0.00	0.00	0.00	
5,800.0	15.35	80.59	5,647.0	191.2	1,153.9	352.4	0.00	0.00	0.00	
5,900.0	15.35	80.59	5,743.4	195.5	1,180.0	360.3	0.00	0.00	0.00	
6,000.0	15.35	80.59	5,839.9	199.8	1,206.1	368.3	0.00	0.00	0.00	
6,100.0	15.35	80.59	5,936.3	204.1	1,232.2	376.3	0.00	0.00	0.00	
6,200.0	15.35	80.59	6,032.7	208.5	1,258.3	384.3	0.00	0.00	0.00	
6,300.0	15.35	80.59	6,129.2	212.8	1,284.4	392.2	0.00	0.00	0.00	
6,400.0	15.35	80.59	6,225.6	217.1	1,310.5	400.2	0.00	0.00	0.00	
6,500.0	15.35	80.59	6,322.0	221.5	1,336.7	408.2	0.00	0.00	0.00	
6,600.0	15.35	80.59	6,418.5	225.8	1,362.8	416.2	0.00	0.00	0.00	
6,700.0	15.35	80.59	6,514.9	230.1	1,388.9	424.1	0.00	0.00	0.00	
6,800.0	15.35	80.59	6,611.3	234.4	1,415.0	432.1	0.00	0.00	0.00	
6,900.0	15.35	80.59	6,707.8	238.8	1,441.1	440.1	0.00	0.00	0.00	
7,000.0	15.35	80.59	6,804.2	243.1	1,467.2	448.1	0.00	0.00	0.00	
7,100.0	15.35	80.59	6,900.6	247.4	1,493.3	456.0	0.00	0.00	0.00	
7,200.0	15.35	80.59	6,997.1	251.7	1,519.5	464.0	0.00	0.00	0.00	
7,300.0	15.35	80.59	7,093.5	256.1	1,545.6	472.0	0.00	0.00	0.00	
7,400.0	15.35	80.59	7,189.9	260.4	1,571.7	480.0	0.00	0.00	0.00	
7,500.0	15.35	80.59	7,286.4	264.7	1,597.8	487.9	0.00	0.00	0.00	
7,600.0	15.35	80.59	7,382.8	269.0	1,623.9	495.9	0.00	0.00	0.00	
7,700.0	15.35	80.59	7,479.2	273.4	1,650.0	503.9	0.00	0.00	0.00	
7,800.0	15.35	80.59	7,575.7	277.7	1,676.1	511.9	0.00	0.00	0.00	
7,900.0	15.35	80.59	7,672.1	282.0	1,702.3	519.8	0.00	0.00	0.00	
8,000.0	15.35	80.59	7,768.5	286.4	1,728.4	527.8	0.00	0.00	0.00	
8,100.0	15.35	80.59	7,865.0	290.7	1,754.5	535.8	0.00	0.00	0.00	
8,119.1	15.35	80.59	7,883.4	291.5	1,759.5	537.3	0.00	0.00	0.00	
8,200.0	14.54	80.59	7,961.6	294.9	1,780.1	543.6	1.00	-1.00	0.00	
8,300.0	13.54	80.59	8,058.6	298.9	1,804.0	550.9	1.00	-1.00	0.00	
8,400.0	12.54	80.59	8,156.0	302.6	1,826.2	557.7	1.00	-1.00	0.00	
8,500.0	11.54	80.59	8,253.8	306.0	1,846.8	564.0	1.00	-1.00	0.00	
8,600.0	10.54	80.59	8,351.9	309.1	1,865.7	569.7	1.00	-1.00	0.00	
8,700.0	9.54	80.59	8,450.4	312.0	1,882.9	575.0	1.00	-1.00	0.00	
8,800.0	8.54	80.59	8,549.2	314.5	1,898.4	579.7	1.00	-1.00	0.00	
8,900.0	7.54	80.59	8,648.2	316.8	1,912.2	583.9	1.00	-1.00	0.00	
9,000.0	6.54	80.59	8,747.4	318.8	1,924.3	587.6	1.00	-1.00	0.00	
9,100.0	5.54	80.59	8,846.9	320.5	1,934.7	590.8	1.00	-1.00	0.00	
9,200.0	4.54	80.59	8,946.5	322.0	1,943.4	593.5	1.00	-1.00	0.00	
9,300.0	3.54	80.59	9,046.2	323.1	1,950.3	595.6	1.00	-1.00	0.00	
9,400.0	2.54	80.59	9,146.1	324.0	1,955.5	597.2	1.00	-1.00	0.00	
9,500.0	1.54	80.59	9,246.0	324.6	1,959.0	598.2	1.00	-1.00	0.00	
9,600.0	0.54	80.59	9,346.0	324.9	1,960.8	598.8	1.00	-1.00	0.00	
9,654.0	0.00	0.00	9,400.0	324.9	1,961.1	598.9	1.00	-1.00	0.00	
9,700.0	0.00	0.00	9,446.0	324.9	1,961.1	598.9	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,546.0	324.9	1,961.1	598.9	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,646.0	324.9	1,961.1	598.9	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,746.0	324.9	1,961.1	598.9	0.00	0.00	0.00	
10,076.5	0.00	0.00	9,822.5	324.9	1,961.1	598.9	0.00	0.00	0.00	
10,100.0	2.82	359.78	9,846.0	325.5	1,961.1	599.4	12.00	12.00	0.00	
10,200.0	14.82	359.78	9,944.6	340.8	1,961.0	614.6	12.00	12.00	0.00	
10,300.0	26.82	359.78	10,037.9	376.3	1,960.9	649.7	12.00	12.00	0.00	

ConocoPhillips

Planning Report

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Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_ THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,400.0	38.82	359.78	10,121.8	430.4	1,960.7	703.2	12.00	12.00	0.00	
10,500.0	50.82	359.78	10,192.6	500.7	1,960.4	772.8	12.00	12.00	0.00	
10,600.0	62.82	359.78	10,247.2	584.3	1,960.1	855.5	12.00	12.00	0.00	
10,700.0	74.82	359.78	10,283.3	677.4	1,959.7	947.6	12.00	12.00	0.00	
10,800.0	86.82	359.78	10,299.2	775.9	1,959.4	1,045.1	12.00	12.00	0.00	
10,826.5	90.00	359.78	10,300.0	802.4	1,959.3	1,071.3	12.00	12.00	0.00	
10,900.0	90.00	359.78	10,300.0	875.9	1,959.0	1,144.0	0.00	0.00	0.00	
11,000.0	90.00	359.78	10,300.0	975.9	1,958.6	1,242.9	0.00	0.00	0.00	
11,100.0	90.00	359.78	10,300.0	1,075.9	1,958.2	1,341.9	0.00	0.00	0.00	
11,200.0	90.00	359.78	10,300.0	1,175.9	1,957.8	1,440.8	0.00	0.00	0.00	
11,300.0	90.00	359.78	10,300.0	1,275.9	1,957.4	1,539.8	0.00	0.00	0.00	
11,400.0	90.00	359.78	10,300.0	1,375.9	1,957.1	1,638.7	0.00	0.00	0.00	
11,500.0	90.00	359.78	10,300.0	1,475.9	1,956.7	1,737.7	0.00	0.00	0.00	
11,600.0	90.00	359.78	10,300.0	1,575.9	1,956.3	1,836.6	0.00	0.00	0.00	
11,700.0	90.00	359.78	10,300.0	1,675.9	1,955.9	1,935.5	0.00	0.00	0.00	
11,800.0	90.00	359.78	10,300.0	1,775.9	1,955.5	2,034.5	0.00	0.00	0.00	
11,900.0	90.00	359.78	10,300.0	1,875.9	1,955.1	2,133.4	0.00	0.00	0.00	
12,000.0	90.00	359.78	10,300.0	1,975.9	1,954.8	2,232.4	0.00	0.00	0.00	
12,100.0	90.00	359.78	10,300.0	2,075.9	1,954.4	2,331.3	0.00	0.00	0.00	
12,200.0	90.00	359.78	10,300.0	2,175.9	1,954.0	2,430.2	0.00	0.00	0.00	
12,300.0	90.00	359.78	10,300.0	2,275.9	1,953.6	2,529.2	0.00	0.00	0.00	
12,400.0	90.00	359.78	10,300.0	2,375.9	1,953.2	2,628.1	0.00	0.00	0.00	
12,500.0	90.00	359.78	10,300.0	2,475.9	1,952.8	2,727.1	0.00	0.00	0.00	
12,600.0	90.00	359.78	10,300.0	2,575.9	1,952.5	2,826.0	0.00	0.00	0.00	
12,700.0	90.00	359.78	10,300.0	2,675.9	1,952.1	2,924.9	0.00	0.00	0.00	
12,800.0	90.00	359.78	10,300.0	2,775.9	1,951.7	3,023.9	0.00	0.00	0.00	
12,900.0	90.00	359.78	10,300.0	2,875.9	1,951.3	3,122.8	0.00	0.00	0.00	
13,000.0	90.00	359.78	10,300.0	2,975.9	1,950.9	3,221.8	0.00	0.00	0.00	
13,100.0	90.00	359.78	10,300.0	3,075.9	1,950.5	3,320.7	0.00	0.00	0.00	
13,200.0	90.00	359.78	10,300.0	3,175.9	1,950.2	3,419.6	0.00	0.00	0.00	
13,300.0	90.00	359.78	10,300.0	3,275.9	1,949.8	3,518.6	0.00	0.00	0.00	
13,400.0	90.00	359.78	10,300.0	3,375.9	1,949.4	3,617.5	0.00	0.00	0.00	
13,500.0	90.00	359.78	10,300.0	3,475.9	1,949.0	3,716.5	0.00	0.00	0.00	
13,600.0	90.00	359.78	10,300.0	3,575.9	1,948.6	3,815.4	0.00	0.00	0.00	
13,700.0	90.00	359.78	10,300.0	3,675.9	1,948.2	3,914.4	0.00	0.00	0.00	
13,800.0	90.00	359.78	10,300.0	3,775.9	1,947.9	4,013.3	0.00	0.00	0.00	
13,900.0	90.00	359.78	10,300.0	3,875.9	1,947.5	4,112.2	0.00	0.00	0.00	
14,000.0	90.00	359.78	10,300.0	3,975.9	1,947.1	4,211.2	0.00	0.00	0.00	
14,100.0	90.00	359.78	10,300.0	4,075.9	1,946.7	4,310.1	0.00	0.00	0.00	
14,200.0	90.00	359.78	10,300.0	4,175.9	1,946.3	4,409.1	0.00	0.00	0.00	
14,300.0	90.00	359.78	10,300.0	4,275.8	1,945.9	4,508.0	0.00	0.00	0.00	
14,400.0	90.00	359.78	10,300.0	4,375.8	1,945.6	4,606.9	0.00	0.00	0.00	
14,500.0	90.00	359.78	10,300.0	4,475.8	1,945.2	4,705.9	0.00	0.00	0.00	
14,600.0	90.00	359.78	10,300.0	4,575.8	1,944.8	4,804.8	0.00	0.00	0.00	
14,700.0	90.00	359.78	10,300.0	4,675.8	1,944.4	4,903.8	0.00	0.00	0.00	
14,800.0	90.00	359.78	10,300.0	4,775.8	1,944.0	5,002.7	0.00	0.00	0.00	
14,900.0	90.00	359.78	10,300.0	4,875.8	1,943.7	5,101.6	0.00	0.00	0.00	
15,000.0	90.00	359.78	10,300.0	4,975.8	1,943.3	5,200.6	0.00	0.00	0.00	
15,100.0	90.00	359.78	10,300.0	5,075.8	1,942.9	5,299.5	0.00	0.00	0.00	
15,200.0	90.00	359.78	10,300.0	5,175.8	1,942.5	5,398.5	0.00	0.00	0.00	
15,300.0	90.00	359.78	10,300.0	5,275.8	1,942.1	5,497.4	0.00	0.00	0.00	
15,400.0	90.00	359.78	10,300.0	5,375.8	1,941.7	5,596.3	0.00	0.00	0.00	
15,500.0	90.00	359.78	10,300.0	5,475.8	1,941.4	5,695.3	0.00	0.00	0.00	
15,600.0	90.00	359.78	10,300.0	5,575.8	1,941.0	5,794.2	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ THUNDERDOME FED COM 523H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_ THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,700.0	90.00	359.78	10,300.0	5,675.8	1,940.6	5,893.2	0.00	0.00	0.00	
15,800.0	90.00	359.78	10,300.0	5,775.8	1,940.2	5,992.1	0.00	0.00	0.00	
15,900.0	90.00	359.78	10,300.0	5,875.8	1,939.8	6,091.1	0.00	0.00	0.00	
16,000.0	90.00	359.78	10,300.0	5,975.8	1,939.4	6,190.0	0.00	0.00	0.00	
16,100.0	90.00	359.78	10,300.0	6,075.8	1,939.1	6,288.9	0.00	0.00	0.00	
16,200.0	90.00	359.78	10,300.0	6,175.8	1,938.7	6,387.9	0.00	0.00	0.00	
16,300.0	90.00	359.78	10,300.0	6,275.8	1,938.3	6,486.8	0.00	0.00	0.00	
16,400.0	90.00	359.78	10,300.0	6,375.8	1,937.9	6,585.8	0.00	0.00	0.00	
16,500.0	90.00	359.78	10,300.0	6,475.8	1,937.5	6,684.7	0.00	0.00	0.00	
16,600.0	90.00	359.78	10,300.0	6,575.8	1,937.1	6,783.6	0.00	0.00	0.00	
16,700.0	90.00	359.78	10,300.0	6,675.8	1,936.8	6,882.6	0.00	0.00	0.00	
16,800.0	90.00	359.78	10,300.0	6,775.8	1,936.4	6,981.5	0.00	0.00	0.00	
16,900.0	90.00	359.78	10,300.0	6,875.8	1,936.0	7,080.5	0.00	0.00	0.00	
17,000.0	90.00	359.78	10,300.0	6,975.8	1,935.6	7,179.4	0.00	0.00	0.00	
17,100.0	90.00	359.78	10,300.0	7,075.8	1,935.2	7,278.3	0.00	0.00	0.00	
17,200.0	90.00	359.78	10,300.0	7,175.8	1,934.8	7,377.3	0.00	0.00	0.00	
17,300.0	90.00	359.78	10,300.0	7,275.8	1,934.5	7,476.2	0.00	0.00	0.00	
17,400.0	90.00	359.78	10,300.0	7,375.8	1,934.1	7,575.2	0.00	0.00	0.00	
17,500.0	90.00	359.78	10,300.0	7,475.8	1,933.7	7,674.1	0.00	0.00	0.00	
17,600.0	90.00	359.78	10,300.0	7,575.8	1,933.3	7,773.0	0.00	0.00	0.00	
17,700.0	90.00	359.78	10,300.0	7,675.8	1,932.9	7,872.0	0.00	0.00	0.00	
17,800.0	90.00	359.78	10,300.0	7,775.8	1,932.5	7,970.9	0.00	0.00	0.00	
17,900.0	90.00	359.78	10,300.0	7,875.8	1,932.2	8,069.9	0.00	0.00	0.00	
18,000.0	90.00	359.78	10,300.0	7,975.8	1,931.8	8,168.8	0.00	0.00	0.00	
18,100.0	90.00	359.78	10,300.0	8,075.8	1,931.4	8,267.7	0.00	0.00	0.00	
18,200.0	90.00	359.78	10,300.0	8,175.8	1,931.0	8,366.7	0.00	0.00	0.00	
18,300.0	90.00	359.78	10,300.0	8,275.8	1,930.6	8,465.6	0.00	0.00	0.00	
18,400.0	90.00	359.78	10,300.0	8,375.8	1,930.2	8,564.6	0.00	0.00	0.00	
18,500.0	90.00	359.78	10,300.0	8,475.8	1,929.9	8,663.5	0.00	0.00	0.00	
18,600.0	90.00	359.78	10,300.0	8,575.8	1,929.5	8,762.5	0.00	0.00	0.00	
18,700.0	90.00	359.78	10,300.0	8,675.8	1,929.1	8,861.4	0.00	0.00	0.00	
18,800.0	90.00	359.78	10,300.0	8,775.8	1,928.7	8,960.3	0.00	0.00	0.00	
18,900.0	90.00	359.78	10,300.0	8,875.8	1,928.3	9,059.3	0.00	0.00	0.00	
19,000.0	90.00	359.78	10,300.0	8,975.8	1,927.9	9,158.2	0.00	0.00	0.00	
19,100.0	90.00	359.78	10,300.0	9,075.8	1,927.6	9,257.2	0.00	0.00	0.00	
19,200.0	90.00	359.78	10,300.0	9,175.8	1,927.2	9,356.1	0.00	0.00	0.00	
19,300.0	90.00	359.78	10,300.0	9,275.8	1,926.8	9,455.0	0.00	0.00	0.00	
19,400.0	90.00	359.78	10,300.0	9,375.8	1,926.4	9,554.0	0.00	0.00	0.00	
19,500.0	90.00	359.78	10,300.0	9,475.8	1,926.0	9,652.9	0.00	0.00	0.00	
19,600.0	90.00	359.78	10,300.0	9,575.8	1,925.6	9,751.9	0.00	0.00	0.00	
19,700.0	90.00	359.78	10,300.0	9,675.8	1,925.3	9,850.8	0.00	0.00	0.00	
19,800.0	90.00	359.78	10,300.0	9,775.8	1,924.9	9,949.7	0.00	0.00	0.00	
19,900.0	90.00	359.78	10,300.0	9,875.8	1,924.5	10,048.7	0.00	0.00	0.00	
20,000.0	90.00	359.78	10,300.0	9,975.8	1,924.1	10,147.6	0.00	0.00	0.00	
20,100.0	90.00	359.78	10,300.0	10,075.8	1,923.7	10,246.6	0.00	0.00	0.00	
20,200.0	90.00	359.78	10,300.0	10,175.8	1,923.3	10,345.5	0.00	0.00	0.00	
20,300.0	90.00	359.78	10,300.0	10,275.8	1,923.0	10,444.4	0.00	0.00	0.00	
20,400.0	90.00	359.78	10,300.0	10,375.8	1,922.6	10,543.4	0.00	0.00	0.00	
20,500.0	90.00	359.78	10,300.0	10,475.8	1,922.2	10,642.3	0.00	0.00	0.00	
20,600.0	90.00	359.78	10,300.0	10,575.8	1,921.8	10,741.3	0.00	0.00	0.00	
20,700.0	90.00	359.78	10,300.0	10,675.8	1,921.4	10,840.2	0.00	0.00	0.00	
20,800.0	90.00	359.78	10,300.0	10,775.8	1,921.0	10,939.2	0.00	0.00	0.00	
20,900.0	90.00	359.78	10,300.0	10,875.8	1,920.7	11,038.1	0.00	0.00	0.00	
21,000.0	90.00	359.78	10,300.0	10,975.8	1,920.3	11,137.0	0.00	0.00	0.00	

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ THUNDERDOME FED COM 523H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	_ THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
21,100.0	90.00	359.78	10,300.0	11,075.8	1,919.9	11,236.0	0.00	0.00	0.00	
21,200.0	90.00	359.78	10,300.0	11,175.8	1,919.5	11,334.9	0.00	0.00	0.00	
21,300.0	90.00	359.78	10,300.0	11,275.8	1,919.1	11,433.9	0.00	0.00	0.00	
21,400.0	90.00	359.78	10,300.0	11,375.8	1,918.7	11,532.8	0.00	0.00	0.00	
21,500.0	90.00	359.78	10,300.0	11,475.8	1,918.4	11,631.7	0.00	0.00	0.00	
21,600.0	90.00	359.78	10,300.0	11,575.8	1,918.0	11,730.7	0.00	0.00	0.00	
21,700.0	90.00	359.78	10,300.0	11,675.8	1,917.6	11,829.6	0.00	0.00	0.00	
21,800.0	90.00	359.78	10,300.0	11,775.8	1,917.2	11,928.6	0.00	0.00	0.00	
21,900.0	90.00	359.78	10,300.0	11,875.8	1,916.8	12,027.5	0.00	0.00	0.00	
22,000.0	90.00	359.78	10,300.0	11,975.8	1,916.4	12,126.4	0.00	0.00	0.00	
22,100.0	90.00	359.78	10,300.0	12,075.8	1,916.1	12,225.4	0.00	0.00	0.00	
22,200.0	90.00	359.78	10,300.0	12,175.8	1,915.7	12,324.3	0.00	0.00	0.00	
22,300.0	90.00	359.78	10,300.0	12,275.8	1,915.3	12,423.3	0.00	0.00	0.00	
22,400.0	90.00	359.78	10,300.0	12,375.8	1,914.9	12,522.2	0.00	0.00	0.00	
22,500.0	90.00	359.78	10,300.0	12,475.8	1,914.5	12,621.1	0.00	0.00	0.00	
22,600.0	90.00	359.78	10,300.0	12,575.8	1,914.1	12,720.1	0.00	0.00	0.00	
22,700.0	90.00	359.78	10,300.0	12,675.8	1,913.8	12,819.0	0.00	0.00	0.00	
22,800.0	90.00	359.78	10,300.0	12,775.8	1,913.4	12,918.0	0.00	0.00	0.00	
22,900.0	90.00	359.78	10,300.0	12,875.8	1,913.0	13,016.9	0.00	0.00	0.00	
23,000.0	90.00	359.78	10,300.0	12,975.8	1,912.6	13,115.9	0.00	0.00	0.00	
23,100.0	90.00	359.78	10,300.0	13,075.8	1,912.2	13,214.8	0.00	0.00	0.00	
23,200.0	90.00	359.78	10,300.0	13,175.8	1,911.8	13,313.7	0.00	0.00	0.00	
23,300.0	90.00	359.78	10,300.0	13,275.8	1,911.5	13,412.7	0.00	0.00	0.00	
23,400.0	90.00	359.78	10,300.0	13,375.8	1,911.1	13,511.6	0.00	0.00	0.00	
23,407.2	90.00	359.78	10,300.0	13,383.0	1,911.0	13,518.8	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP_THUNDERDOME f - hit/miss target - Shape	90.00	359.79	10,300.0	13,333.0	1,911.2	482,797.62	651,298.42	32° 19' 34.954 N	103° 50' 36.691 W
FTP_THUNDERDOME I - plan hits target center - Circle (radius 50.0)	0.00	0.00	10,300.0	324.9	1,961.1	469,789.51	651,348.28	32° 17' 26.225 N	103° 50' 36.802 W
PBHL_THUNDERDOME - plan misses target center by 197.8usft at 10452.1usft MD (10160.6 TVD, 465.2 N, 1960.6 E) - Circle (radius 50.0)	0.00	179.79	10,300.0	13,383.0	1,911.0	482,847.62	651,298.24	32° 19' 35.449 N	103° 50' 36.690 W
- Rectangle (sides W100.0 H13,058.2 D20.0)									

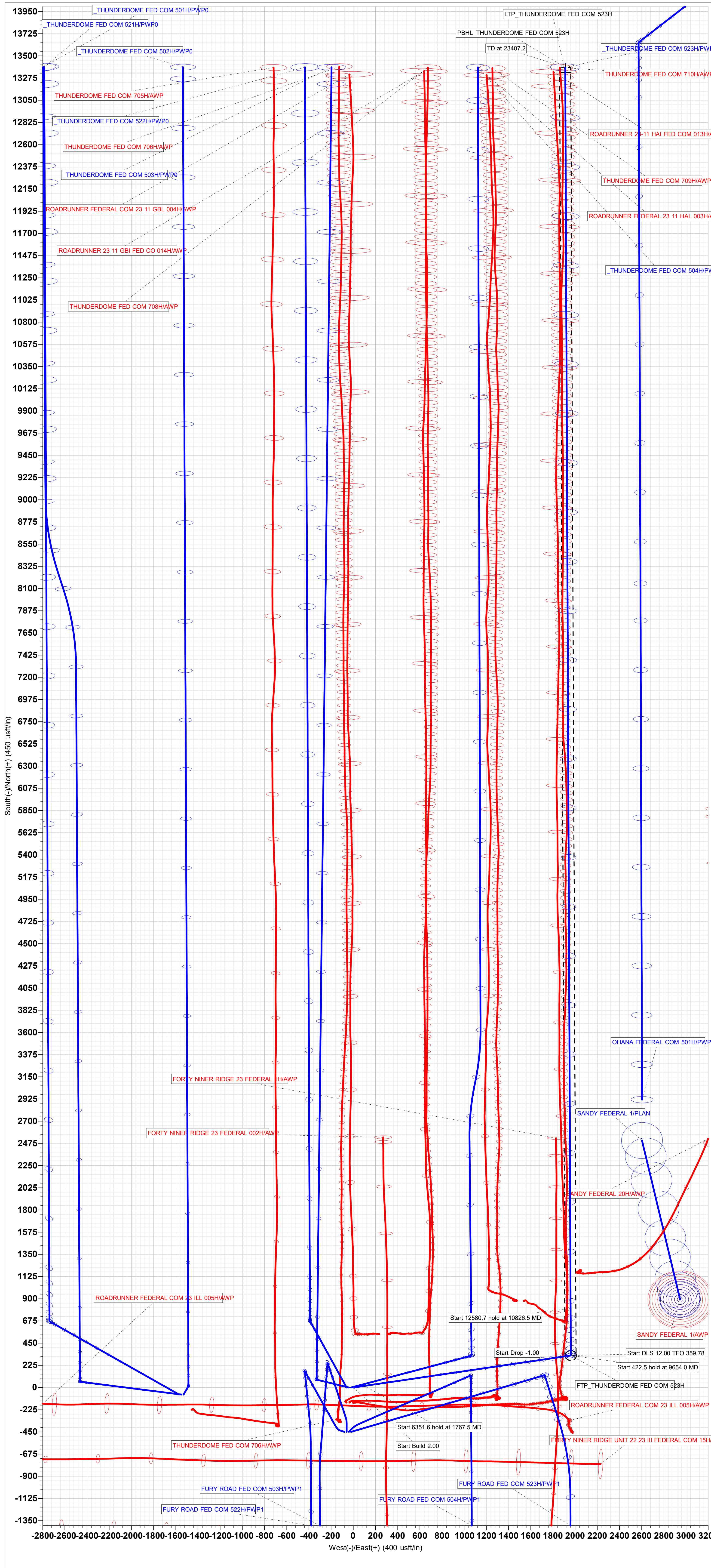
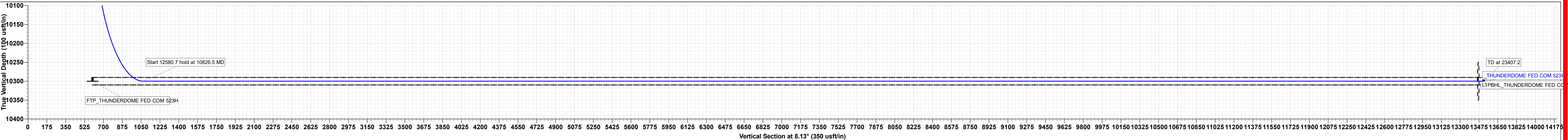
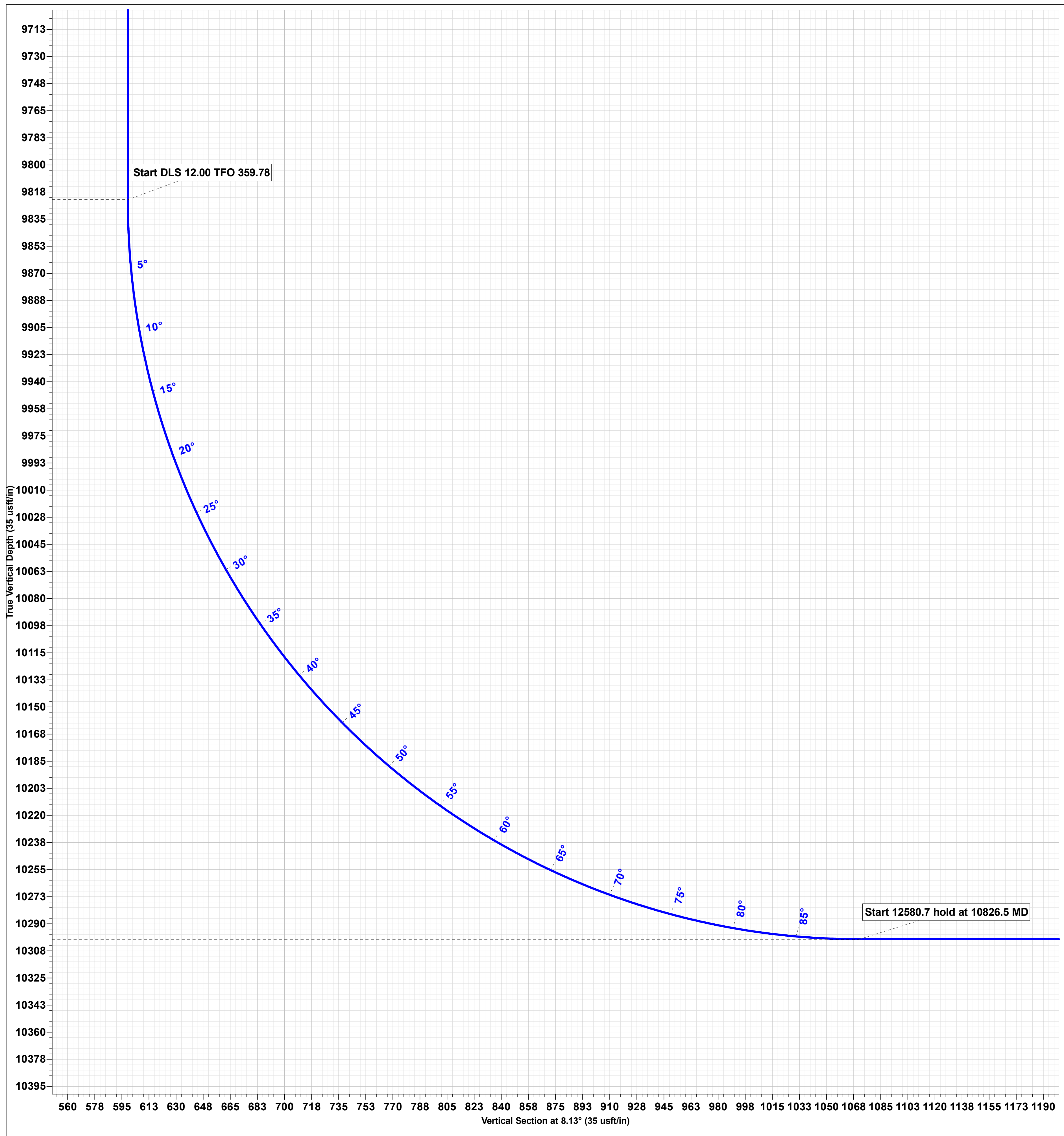
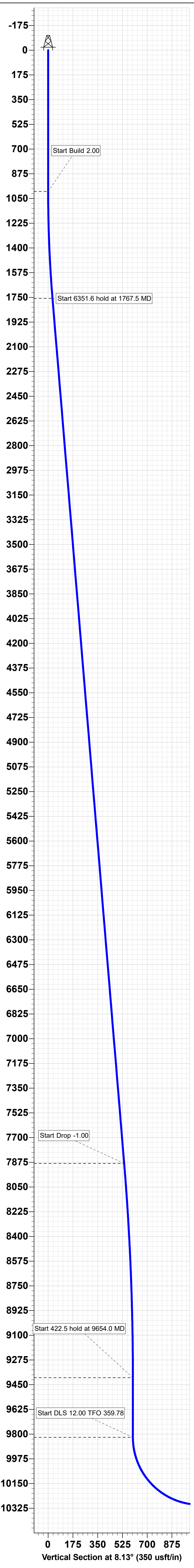
Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
23,407.3	10,300.0	5-1/2" Production Casing		5-1/2	6



Project: ATLAS PROSPECT (DBW)
Site: THUNDERDOME PROJECT
Well: THUNDERDOME FED COM 523H
Wellbore: OWB
Design: PWP0

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0
1767.5	15.35	80.59	1758.3	16.7	100.8	2.00	80.59	30.8
8119.1	15.35	80.59	7883.4	291.5	1759.5	0.00	0.00	537.3
9654.0	0.00	0.00	9400.0	324.9	1961.1	1.00	180.00	598.9
10076.5	0.00	0.00	9822.5	324.9	1961.1	0.00	0.00	598.9
10826.5	90.00	359.78	10300.0	802.4	1959.3	12.00	359.78	1071.3
23407.2	90.00	359.78	10300.0	13383.0	1911.1	0.00	0.00	13518.8



DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)

THUNDERDOME PROJECT

_THUNDERDOME FED COM 523H

OWB

PWP0

Anticollision Report

29 April, 2025

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Max. Cent. Dist. of 1,000.0usft or Max. Ell. Sep. of 500.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program	Date	2/25/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	23,407.2	PWP0 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offet Well - Wellbore - Design						
FURY ROAD PROJECT						
FURY ROAD FED COM 503H - OWB - PWP1	1,000.0	1,049.0	453.3	445.2	55.527 CC, ES	
FURY ROAD FED COM 503H - OWB - PWP1	3,200.0	3,228.5	648.5	627.9	31.389 SF	
FURY ROAD FED COM 504H - OWB - PWP1	5,632.8	5,744.0	255.6	217.1	6.633 CC	
FURY ROAD FED COM 504H - OWB - PWP1	5,700.0	5,808.1	256.1	216.9	6.539 ES	
FURY ROAD FED COM 504H - OWB - PWP1	5,900.0	6,000.0	262.4	221.4	6.406 SF	
FURY ROAD FED COM 522H - OWB - PWP1	1,000.0	1,049.0	456.5	448.3	55.911 CC, ES	
FURY ROAD FED COM 522H - OWB - PWP1	3,900.0	3,869.0	958.9	933.7	38.010 SF	
FURY ROAD FED COM 523H - OWB - PWP1	7,786.8	7,890.8	168.4	123.0	3.709 CC	
FURY ROAD FED COM 523H - OWB - PWP1	7,900.0	8,001.7	169.5	121.9	3.559 ES	
FURY ROAD FED COM 523H - OWB - PWP1	8,200.0	8,292.5	185.7	129.8	3.324 SF	
IRON THRONE PROJECT						
FORTY NINER RIDGE UNIT 22 23 III FEDERAL COM 1						Out of range
OHANA PROJECT						
OHANA FEDERAL COM 501H - OWB - PWP1	12,940.4	20,456.9	922.4	787.6	6.845 CC	
OHANA FEDERAL COM 501H - OWB - PWP1	23,200.0	10,208.4	928.9	732.4	4.727 ES, SF	
OHANA FEDERAL COM 502H - OWB - PWP1					Out of range	
OHANA FEDERAL COM 503H - OWB - PWP1					Out of range	
SANDY FEDERAL 1 - OWB - AWP	10,913.5	10,350.6	987.6	616.4	2.661 Normal Operations, CC, ES, SF	
SANDY FEDERAL 1 - ST01 - PLAN					Out of range	
SANDY FEDERAL 20H - OWB - AWP	9,270.2	9,084.2	843.9	802.8	20.563 CC	
SANDY FEDERAL 20H - OWB - AWP	11,230.7	9,805.3	848.8	787.7	13.886 ES	
SANDY FEDERAL 20H - OWB - AWP	11,300.0	9,818.0	851.4	790.1	13.884 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
THUNDERDOME PROJECT						
_THUNDERDOME FED COM 503H - OWB - PWP0	1,000.0	1,000.0	40.0	31.8	4.889 CC, ES	
_THUNDERDOME FED COM 503H - OWB - PWP0	1,100.0	1,100.0	41.7	33.0	4.802 SF	
_THUNDERDOME FED COM 504H - OWB - PWP0	1,000.0	1,000.0	20.0	11.8	2.444 Caution - Monitor Closely, CC, ES, SF	
_THUNDERDOME FED COM 522H - OWB - PWP0	1,000.0	1,000.0	60.0	51.8	7.333 CC, ES	
_THUNDERDOME FED COM 522H - OWB - PWP0	1,100.0	1,099.0	62.5	53.8	7.177 SF	
FORTY NINER RIDGE 23 FEDERAL 002H - OWB - AWP					Out of range	
FORTY NINER RIDGE 23 FEDERAL 1H - OWB - AWP	10,076.5	12,132.0	135.3	51.7	1.618 Caution - Monitor Closely, ES, SF	
FORTY NINER RIDGE 23 FEDERAL 1H - OWB - AWP	10,079.8	12,132.0	135.2	51.9	1.622 Caution - Monitor Closely, CC	
ROADRUNNER 23 11 GBI FED CO 014H - OWB - AWP	3,031.7	3,013.9	488.6	469.0	24.908 CC, ES	
ROADRUNNER 23 11 GBI FED CO 014H - OWB - AWP	6,400.0	6,321.0	796.2	748.8	16.828 SF	
ROADRUNNER 23-11 HAI FED COM 013H - OWB - AW	7,257.2	6,989.7	586.8	540.6	12.704 CC, ES, SF	
ROADRUNNER FEDERAL 23 11 HAL 003H - OWB - AW	6,477.5	6,343.0	753.1	722.7	24.748 CC	
ROADRUNNER FEDERAL 23 11 HAL 003H - OWB - AW	6,500.0	6,364.9	753.1	722.6	24.674 ES	
ROADRUNNER FEDERAL 23 11 HAL 003H - OWB - AW	7,300.0	7,062.0	813.3	777.6	22.771 SF	
ROADRUNNER FEDERAL COM 23 11 GBL 004H - OWB	2,392.2	2,385.8	504.7	487.3	28.988 CC	
ROADRUNNER FEDERAL COM 23 11 GBL 004H - OWB	2,400.0	2,393.3	504.7	487.3	28.930 ES	
ROADRUNNER FEDERAL COM 23 11 GBL 004H - OWB	4,000.0	3,920.9	705.0	676.2	24.478 SF	
ROADRUNNER FEDERAL COM 23 ILL 005H - OWB - A	8,125.6	7,920.0	652.7	610.2	15.359 CC, ES, SF	
ROADRUNNER FEDERAL COM 23 ILL 005H - ST01 - A	7,683.9	7,716.1	481.3	438.4	11.220 CC, ES	
ROADRUNNER FEDERAL COM 23 ILL 005H - ST01 - A	7,700.0	7,719.2	481.6	438.6	11.192 SF	
ROADRUNNER FEDERAL COM 23 PML - OWB - AWP					Out of range	
THUNDERDOME FED COM 705H - OWB - AWP					Out of range	
THUNDERDOME FED COM 706H - PILOT HOLE - AWP	856.4	901.7	187.1	179.6	25.211 CC	
THUNDERDOME FED COM 706H - PILOT HOLE - AWP	900.0	944.5	187.1	179.6	24.841 ES	
THUNDERDOME FED COM 706H - PILOT HOLE - AWP	1,300.0	1,342.2	202.4	193.6	23.130 SF	
THUNDERDOME FED COM 706H - ST01 - AWP	856.4	901.7	187.1	179.6	25.211 CC	
THUNDERDOME FED COM 706H - ST01 - AWP	900.0	944.5	187.1	179.6	24.841 ES	
THUNDERDOME FED COM 706H - ST01 - AWP	1,300.0	1,342.2	202.4	193.6	23.130 SF	
THUNDERDOME FED COM 708H - OWB - AWP	1,097.7	1,149.2	148.8	140.7	18.328 CC	
THUNDERDOME FED COM 708H - OWB - AWP	1,100.0	1,151.3	148.8	140.7	18.311 ES	
THUNDERDOME FED COM 708H - OWB - AWP	6,200.0	6,275.2	690.1	649.8	17.129 SF	
THUNDERDOME FED COM 709H - OWB - AWP	1,091.4	1,145.3	151.8	143.7	18.602 CC	
THUNDERDOME FED COM 709H - OWB - AWP	1,100.0	1,154.0	151.8	143.6	18.548 ES	
THUNDERDOME FED COM 709H - OWB - AWP	7,800.0	7,859.4	599.8	549.2	11.854 SF	
THUNDERDOME FED COM 710H - OWB - AWP	448.4	501.4	148.7	142.5	23.842 CC, ES	
THUNDERDOME FED COM 710H - OWB - AWP	23,407.2	24,723.0	843.9	657.7	4.532 SF	

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 503H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	49.0	0.0	0.0	0.4	-172.48	-449.4	-59.3	453.3	452.3	1.00	451.933	
100.0	100.0	149.0	100.0	1.2	1.1	-172.48	-449.4	-59.3	453.3	450.6	2.76	164.523	
200.0	200.0	249.0	200.0	1.7	1.7	-172.48	-449.4	-59.3	453.3	449.5	3.80	119.152	
300.0	300.0	349.0	300.0	2.1	2.1	-172.48	-449.4	-59.3	453.3	448.7	4.59	98.759	
400.0	400.0	449.0	400.0	2.4	2.4	-172.48	-449.4	-59.3	453.3	448.1	5.25	86.319	
500.0	500.0	549.0	500.0	2.7	2.7	-172.48	-449.4	-59.3	453.3	447.5	5.84	77.673	
600.0	600.0	649.0	600.0	3.0	3.0	-172.48	-449.4	-59.3	453.3	447.0	6.37	71.196	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 503H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
700.0	700.0	749.0	700.0	3.2	3.2	-172.48	-449.4	-59.3	453.3	446.5	6.86	66.101	
800.0	800.0	849.0	800.0	3.5	3.5	-172.48	-449.4	-59.3	453.3	446.0	7.32	61.952	
900.0	900.0	949.0	900.0	3.7	3.7	-172.48	-449.4	-59.3	453.3	445.6	7.75	58.484	
1,000.0	1,000.0	1,049.0	1,000.0	3.9	3.9	-172.48	-449.4	-59.3	453.3	445.2	8.16	55.527 CC, ES	
1,100.0	1,100.0	1,149.0	1,100.0	4.2	4.1	107.13	-449.4	-59.3	453.8	445.3	8.56	53.000	
1,200.0	1,199.8	1,248.8	1,199.8	4.5	4.3	107.73	-449.4	-59.3	455.4	446.5	8.94	50.919	
1,300.0	1,299.5	1,348.5	1,299.5	4.9	4.5	108.71	-449.4	-59.3	458.1	448.8	9.32	49.161	
1,400.0	1,398.7	1,447.7	1,398.7	5.2	4.6	110.06	-449.4	-59.3	462.2	452.5	9.70	47.675	
1,500.0	1,497.5	1,546.5	1,497.5	5.5	4.8	111.73	-449.4	-59.3	467.9	457.8	10.08	46.421	
1,600.0	1,595.6	1,644.6	1,595.6	5.9	5.0	113.70	-449.4	-59.3	475.3	464.9	10.48	45.367	
1,700.0	1,693.1	1,742.1	1,693.1	6.3	5.1	115.91	-449.4	-59.3	485.0	474.1	10.90	44.489	
1,767.5	1,758.3	1,808.7	1,759.7	6.5	5.3	117.55	-449.4	-59.3	492.9	481.7	11.17	44.119	
1,800.0	1,789.7	1,846.2	1,797.2	6.6	5.4	118.58	-449.0	-59.3	496.7	485.4	11.33	43.849	
1,900.0	1,886.1	1,961.6	1,912.5	6.9	5.7	121.78	-444.9	-59.3	506.9	495.0	11.92	42.540	
2,000.0	1,982.6	2,076.9	2,027.4	7.3	6.0	125.05	-436.1	-59.3	514.8	502.2	12.54	41.065	
2,100.0	2,079.0	2,191.6	2,141.4	7.7	6.3	128.42	-422.7	-59.3	520.4	507.2	13.19	39.456	
2,200.0	2,175.4	2,305.6	2,254.0	8.1	6.6	131.92	-404.9	-59.3	524.1	510.2	13.88	37.755	
2,300.0	2,271.9	2,418.3	2,364.5	8.5	7.0	135.59	-383.0	-59.3	526.1	511.5	14.60	36.036	
2,400.0	2,368.3	2,516.6	2,460.2	8.9	7.3	138.97	-360.7	-59.4	527.4	512.1	15.29	34.499	
2,500.0	2,464.7	2,600.0	2,541.7	9.3	7.6	141.79	-343.0	-60.3	532.2	516.2	16.01	33.249	
2,600.0	2,561.2	2,678.0	2,618.4	9.8	7.9	144.30	-328.5	-61.9	541.4	524.7	16.67	32.473	
2,700.0	2,657.6	2,758.8	2,698.1	10.2	8.1	146.74	-315.4	-64.5	554.5	537.2	17.30	32.051	
2,800.0	2,754.0	2,848.6	2,786.9	10.6	8.4	149.24	-302.8	-68.1	571.0	553.0	17.96	31.792	
2,900.0	2,850.5	2,943.6	2,880.9	11.1	8.7	151.74	-289.7	-72.0	588.8	570.2	18.65	31.573	
3,000.0	2,946.9	3,038.6	2,974.9	11.5	9.0	154.10	-276.5	-75.9	607.8	588.5	19.32	31.458	
3,100.0	3,043.3	3,133.5	3,068.8	12.0	9.4	156.33	-263.3	-79.7	627.7	607.7	19.99	31.400	
3,200.0	3,139.8	3,228.5	3,162.8	12.5	9.7	158.42	-250.2	-83.6	648.5	627.9	20.66	31.389 SF	
3,300.0	3,236.2	3,323.4	3,256.7	12.9	10.0	160.38	-237.0	-87.5	670.2	648.9	21.33	31.417	
3,400.0	3,332.6	3,418.4	3,350.7	13.4	10.4	162.23	-223.8	-91.4	692.6	670.6	22.00	31.477	
3,500.0	3,429.1	3,513.3	3,444.6	13.9	10.7	163.96	-210.6	-95.3	715.7	693.0	22.67	31.564	
3,600.0	3,525.5	3,608.3	3,538.6	14.3	11.1	165.59	-197.5	-99.2	739.4	716.0	23.35	31.671	
3,700.0	3,621.9	3,703.2	3,632.5	14.8	11.4	167.12	-184.3	-103.1	763.6	739.6	24.02	31.795	
3,800.0	3,718.4	3,798.2	3,726.5	15.3	11.8	168.57	-171.1	-106.9	788.4	763.7	24.69	31.932	
3,900.0	3,814.8	3,893.1	3,820.4	15.7	12.1	169.92	-158.0	-110.8	813.6	788.2	25.36	32.079	
4,000.0	3,911.2	3,988.1	3,914.4	16.2	12.5	171.20	-144.8	-114.7	839.2	813.2	26.04	32.233	
4,100.0	4,007.7	4,083.0	4,008.3	16.7	12.9	172.40	-131.6	-118.6	865.2	838.5	26.71	32.393	
4,200.0	4,104.1	4,178.0	4,102.3	17.2	13.2	173.53	-118.4	-122.5	891.5	864.2	27.38	32.556	
4,300.0	4,200.5	4,272.9	4,196.2	17.7	13.6	174.60	-105.3	-126.4	918.2	890.1	28.06	32.721	
4,400.0	4,297.0	4,367.9	4,290.2	18.1	14.0	175.61	-92.1	-130.3	945.2	916.4	28.74	32.888	
4,500.0	4,393.4	4,462.8	4,384.1	18.6	14.3	176.57	-78.9	-134.1	972.4	943.0	29.42	33.054	
4,600.0	4,489.8	4,557.8	4,478.1	19.1	14.7	177.48	-65.8	-138.0	999.8	969.7	30.10	33.220	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 504H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	49.0	0.0	0.0	0.4	-175.00	-449.3	-39.3	451.1	450.1	1.00	449.678	
100.0	100.0	149.0	100.0	1.2	1.1	-175.00	-449.3	-39.3	451.1	448.3	2.76	163.702	
200.0	200.0	249.0	200.0	1.7	1.7	-175.00	-449.3	-39.3	451.1	447.3	3.80	118.557	
300.0	300.0	349.0	300.0	2.1	2.1	-175.00	-449.3	-39.3	451.1	446.5	4.59	98.266	
400.0	400.0	449.0	400.0	2.4	2.4	-175.00	-449.3	-39.3	451.1	445.8	5.25	85.888	
500.0	500.0	549.0	500.0	2.7	2.7	-175.00	-449.3	-39.3	451.1	445.2	5.84	77.285	
600.0	600.0	649.0	600.0	3.0	3.0	-175.00	-449.3	-39.3	451.1	444.7	6.37	70.841	
700.0	700.0	749.0	700.0	3.2	3.2	-175.00	-449.3	-39.3	451.1	444.2	6.86	65.771	
800.0	800.0	849.0	800.0	3.5	3.5	-175.00	-449.3	-39.3	451.1	443.7	7.32	61.643	
900.0	900.0	949.0	900.0	3.7	3.7	-175.00	-449.3	-39.3	451.1	443.3	7.75	58.192	
1,000.0	1,000.0	1,049.0	1,000.0	3.9	3.9	-175.00	-449.3	-39.3	451.1	442.9	8.16	55.250	
1,100.0	1,100.0	1,149.0	1,100.0	4.2	4.1	104.62	-449.3	-39.3	451.5	442.9	8.56	52.745	
1,200.0	1,199.8	1,248.8	1,199.8	4.5	4.3	105.23	-449.3	-39.3	452.8	443.9	8.94	50.668	
1,300.0	1,299.5	1,348.5	1,299.5	4.9	4.5	106.24	-449.3	-39.3	455.2	445.9	9.31	48.902	
1,400.0	1,398.7	1,447.7	1,398.7	5.2	4.6	107.62	-449.3	-39.3	458.8	449.1	9.68	47.398	
1,500.0	1,497.5	1,554.1	1,505.1	5.5	4.9	109.47	-448.9	-39.0	463.4	453.3	10.10	45.865	
1,600.0	1,595.6	1,669.1	1,620.0	5.9	5.2	111.68	-445.5	-36.1	466.8	456.2	10.60	44.023	
1,700.0	1,693.1	1,784.3	1,734.9	6.3	5.5	114.09	-438.5	-30.3	468.5	457.4	11.11	42.156	
1,767.5	1,758.3	1,862.2	1,812.2	6.5	5.7	115.84	-431.8	-24.6	468.9	457.4	11.43	41.029	
1,800.0	1,789.7	1,899.8	1,849.5	6.6	5.8	116.69	-428.0	-21.4	468.7	457.1	11.57	40.513	
1,900.0	1,886.1	2,013.9	1,962.2	6.9	6.0	119.16	-414.1	-9.8	466.3	454.2	12.10	38.548	
2,000.0	1,982.6	2,117.6	2,064.0	7.3	6.2	121.09	-400.5	4.2	462.5	450.0	12.59	36.727	
2,100.0	2,079.0	2,222.1	2,166.1	7.7	6.4	122.62	-387.0	21.9	458.1	445.0	13.10	34.954	
2,200.0	2,175.4	2,327.2	2,268.1	8.1	6.6	123.73	-373.6	43.6	452.6	439.0	13.62	33.229	
2,300.0	2,271.9	2,431.6	2,368.5	8.5	6.8	124.42	-360.6	68.8	446.0	431.9	14.12	31.584	
2,400.0	2,368.3	2,531.3	2,464.2	8.9	7.0	124.94	-348.3	94.0	439.0	424.4	14.64	29.985	
2,500.0	2,464.7	2,631.0	2,559.8	9.3	7.2	125.48	-336.0	119.3	432.1	416.9	15.17	28.491	
2,600.0	2,561.2	2,730.6	2,655.4	9.8	7.3	126.04	-323.7	144.5	425.2	409.5	15.71	27.072	
2,700.0	2,657.6	2,830.3	2,751.1	10.2	7.5	126.62	-311.4	169.7	418.3	402.1	16.26	25.727	
2,800.0	2,754.0	2,930.0	2,846.7	10.6	7.7	127.22	-299.1	195.0	411.5	394.7	16.83	24.452	
2,900.0	2,850.5	3,029.7	2,942.4	11.1	7.9	127.83	-286.8	220.2	404.7	387.3	17.41	23.244	
3,000.0	2,946.9	3,129.3	3,038.0	11.5	8.0	128.47	-274.5	245.4	398.0	380.0	18.01	22.101	
3,100.0	3,043.3	3,229.0	3,133.6	12.0	8.2	129.13	-262.2	270.6	391.3	372.7	18.62	21.018	
3,200.0	3,139.8	3,328.7	3,229.3	12.5	8.4	129.81	-249.9	295.9	384.7	365.5	19.24	19.992	
3,300.0	3,236.2	3,428.4	3,324.9	12.9	8.6	130.52	-237.5	321.1	378.1	358.3	19.88	19.021	
3,400.0	3,332.6	3,528.0	3,420.5	13.4	8.8	131.25	-225.2	346.3	371.6	351.1	20.53	18.101	
3,500.0	3,429.1	3,627.7	3,516.2	13.9	9.0	132.01	-212.9	371.6	365.2	344.0	21.20	17.230	
3,600.0	3,525.5	3,727.4	3,611.8	14.3	9.2	132.79	-200.6	396.8	358.8	336.9	21.87	16.405	
3,700.0	3,621.9	3,827.0	3,707.5	14.8	9.4	133.61	-188.3	422.0	352.5	330.0	22.56	15.623	
3,800.0	3,718.4	3,926.7	3,803.1	15.3	9.6	134.45	-176.0	447.3	346.3	323.0	23.27	14.882	
3,900.0	3,814.8	4,026.4	3,898.7	15.7	9.8	135.32	-163.7	472.5	340.1	316.1	23.99	14.180	
4,000.0	3,911.2	4,126.1	3,994.4	16.2	10.0	136.22	-151.4	497.7	334.1	309.3	24.72	13.514	
4,100.0	4,007.7	4,225.7	4,090.0	16.7	10.2	137.16	-139.1	523.0	328.1	302.6	25.46	12.883	
4,200.0	4,104.1	4,325.4	4,185.7	17.2	10.4	138.13	-126.8	548.2	322.2	295.9	26.22	12.285	
4,300.0	4,200.5	4,425.1	4,281.3	17.7	10.7	139.14	-114.5	573.4	316.4	289.4	27.00	11.718	
4,400.0	4,297.0	4,524.8	4,376.9	18.1	10.9	140.18	-102.1	598.7	310.7	282.9	27.79	11.181	
4,500.0	4,393.4	4,624.4	4,472.6	18.6	11.1	141.27	-89.8	623.9	305.1	276.5	28.59	10.672	
4,600.0	4,489.8	4,724.1	4,568.2	19.1	11.3	142.39	-77.5	649.1	299.6	270.2	29.40	10.189	
4,700.0	4,586.3	4,823.8	4,663.8	19.6	11.5	143.55	-65.2	674.4	294.2	264.0	30.23	9.732	
4,800.0	4,682.7	4,923.5	4,759.5	20.1	11.7	144.76	-52.9	699.6	289.0	257.9	31.08	9.300	
4,900.0	4,779.1	5,023.1	4,855.1	20.6	12.0	146.01	-40.6	724.8	283.9	252.0	31.93	8.891	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 504H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR		Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance			Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
5,000.0	4,875.6	5,122.8	4,950.8	21.0	12.2	147.30	-28.3	750.1	278.9	246.1	32.80	8.504		
5,100.0	4,972.0	5,222.5	5,046.4	21.5	12.4	148.64	-16.0	775.3	274.1	240.4	33.68	8.139		
5,200.0	5,068.4	5,322.2	5,142.0	22.0	12.6	150.03	-3.7	800.5	269.5	234.9	34.57	7.794		
5,300.0	5,164.9	5,421.8	5,237.7	22.5	12.8	151.47	8.6	825.8	265.0	229.5	35.48	7.469		
5,400.0	5,261.3	5,521.5	5,333.3	23.0	13.1	152.95	21.0	851.0	260.7	224.3	36.38	7.165		
5,500.0	5,357.7	5,617.1	5,425.3	23.5	13.3	154.45	32.5	874.6	257.3	220.0	37.30	6.897		
5,600.0	5,454.2	5,712.6	5,517.5	24.0	13.5	156.03	43.3	896.7	255.7	217.5	38.23	6.689		
5,632.8	5,485.8	5,744.0	5,547.9	24.1	13.5	156.56	46.7	903.7	255.6	217.1	38.54	6.633 CC		
5,700.0	5,550.6	5,808.1	5,610.2	24.5	13.7	157.67	53.4	917.5	256.1	216.9	39.16	6.539 ES		
5,800.0	5,647.0	5,903.5	5,703.1	25.0	13.9	159.33	62.9	936.9	258.3	218.2	40.06	6.446		
5,900.0	5,743.4	6,000.0	5,797.5	25.5	14.1	161.00	71.7	955.0	262.4	221.4	40.96	6.406 SF		
6,000.0	5,839.9	6,093.9	5,889.6	25.9	14.3	162.58	79.7	971.4	268.3	226.5	41.81	6.418		
6,100.0	5,936.3	6,188.8	5,983.0	26.4	14.4	164.10	87.0	986.5	276.2	233.6	42.64	6.478		
6,200.0	6,032.7	6,283.4	6,076.4	26.9	14.6	165.53	93.7	1,000.1	285.9	242.4	43.44	6.582		
6,300.0	6,129.2	6,377.7	6,169.7	27.4	14.8	166.85	99.7	1,012.4	297.4	253.2	44.20	6.728		
6,400.0	6,225.6	6,471.6	6,262.8	27.9	15.0	168.05	105.0	1,023.2	310.7	265.7	44.94	6.913		
6,500.0	6,322.0	6,565.1	6,355.7	28.4	15.1	169.12	109.6	1,032.6	325.7	280.1	45.65	7.135		
6,600.0	6,418.5	6,658.2	6,448.3	28.9	15.3	170.07	113.5	1,040.6	342.5	296.1	46.33	7.392		
6,700.0	6,514.9	6,750.7	6,540.5	29.4	15.5	170.90	116.7	1,047.3	360.9	313.9	46.98	7.681		
6,800.0	6,611.3	6,842.6	6,632.3	29.9	15.6	171.61	119.3	1,052.5	380.9	333.3	47.62	8.000		
6,900.0	6,707.8	6,934.0	6,723.6	30.4	15.7	172.22	121.2	1,056.4	402.6	354.3	48.22	8.348		
7,000.0	6,804.2	7,024.7	6,814.2	30.9	15.9	172.73	122.4	1,059.0	425.8	377.0	48.81	8.724		
7,100.0	6,900.6	7,114.8	6,904.3	31.4	16.0	173.16	123.1	1,060.3	450.5	401.2	49.36	9.127		
7,200.0	6,997.1	7,207.6	6,997.1	31.9	16.0	173.53	123.2	1,060.5	476.6	426.7	49.94	9.543		
7,300.0	7,093.5	7,304.0	7,093.5	32.4	16.1	173.87	123.2	1,060.5	503.0	452.4	50.61	9.938		
7,400.0	7,189.9	7,400.4	7,189.9	32.9	16.2	174.17	123.2	1,060.5	529.3	478.0	51.28	10.323		
7,500.0	7,286.4	7,496.9	7,286.4	33.4	16.2	174.45	123.2	1,060.5	555.6	503.7	51.94	10.697		
7,600.0	7,382.8	7,593.3	7,382.8	33.9	16.3	174.70	123.2	1,060.5	582.0	529.4	52.61	11.063		
7,700.0	7,479.2	7,689.7	7,479.2	34.4	16.3	174.93	123.2	1,060.5	608.4	555.1	53.28	11.419		
7,800.0	7,575.7	7,786.2	7,575.7	34.9	16.4	175.14	123.2	1,060.5	634.8	580.8	53.94	11.767		
7,900.0	7,672.1	7,882.6	7,672.1	35.4	16.5	175.34	123.2	1,060.5	661.1	606.5	54.61	12.106		
8,000.0	7,768.5	7,979.0	7,768.5	35.9	16.5	175.52	123.2	1,060.5	687.5	632.2	55.28	12.436		
8,100.0	7,865.0	8,075.5	7,865.0	36.4	16.6	175.68	123.2	1,060.5	713.9	658.0	55.96	12.759		
8,119.1	7,883.4	8,093.9	7,883.4	36.4	16.6	175.71	123.2	1,060.5	719.0	662.9	56.08	12.820		
8,200.0	7,961.6	8,172.0	7,961.6	36.8	16.7	175.85	123.2	1,060.5	739.8	683.2	56.62	13.066		
8,300.0	8,058.6	8,269.1	8,058.6	37.3	16.7	176.00	123.2	1,060.5	764.0	706.7	57.28	13.338		
8,400.0	8,156.0	8,366.5	8,156.0	37.8	16.8	176.13	123.2	1,060.5	786.5	728.6	57.93	13.576		
8,500.0	8,253.8	8,464.3	8,253.8	38.3	16.9	176.24	123.2	1,060.5	807.3	748.7	58.58	13.782		
8,600.0	8,351.9	8,562.4	8,351.9	38.8	16.9	176.34	123.2	1,060.5	826.4	767.2	59.21	13.958		
8,700.0	8,450.4	8,660.9	8,450.4	39.2	17.0	176.43	123.2	1,060.5	843.8	784.0	59.83	14.104		
8,800.0	8,549.2	8,759.6	8,549.2	39.7	17.1	176.50	123.2	1,060.5	859.5	799.1	60.44	14.221		
8,900.0	8,648.2	8,858.7	8,648.2	40.1	17.1	176.57	123.2	1,060.5	873.5	812.4	61.03	14.312		
9,000.0	8,747.4	8,957.9	8,747.4	40.5	17.2	176.62	123.2	1,060.5	885.7	824.1	61.61	14.376		
9,100.0	8,846.9	9,057.4	8,846.9	40.9	17.3	176.67	123.2	1,060.5	896.2	834.0	62.17	14.416		
9,200.0	8,946.5	9,157.0	8,946.5	41.3	17.3	176.71	123.2	1,060.5	905.0	842.3	62.70	14.433		
9,300.0	9,046.2	9,256.7	9,046.2	41.7	17.4	176.74	123.2	1,060.5	912.0	848.8	63.21	14.427		
9,400.0	9,146.1	9,356.6	9,146.1	42.0	17.5	176.76	123.2	1,060.5	917.3	853.6	63.69	14.402		
9,500.0	9,246.0	9,456.5	9,246.0	42.3	17.5	176.77	123.2	1,060.5	920.9	856.7	64.13	14.358		
9,600.0	9,346.0	9,554.0	9,343.5	42.6	17.6	176.78	123.2	1,060.5	922.7	858.2	64.47	14.312		
9,654.0	9,400.0	9,593.9	9,383.4	42.7	17.6	-102.73	121.5	1,060.5	923.4	859.1	64.36	14.349		
9,700.0	9,446.0	9,625.0	9,414.3	42.7	17.6	-102.95	117.9	1,060.5	924.6	860.5	64.14	14.415		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 504H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
9,800.0	9,546.0	9,693.3	9,480.8	42.7	17.5	-103.84	103.0	1,060.6	929.7	866.1		63.62	14.614
9,900.0	9,646.0	9,755.3	9,538.9	42.7	17.5	-105.14	81.3	1,060.7	938.9	876.0		62.89	14.929
10,000.0	9,746.0	9,810.9	9,588.2	42.7	17.4	-106.65	55.7	1,060.8	952.8	890.9		61.91	15.391
10,076.5	9,822.5	9,850.0	9,620.9	42.7	17.4	-107.89	34.3	1,061.0	967.1	906.1		61.00	15.855
10,100.0	9,846.0	9,859.5	9,628.6	42.8	17.4	-107.39	28.7	1,061.0	972.4	911.7		60.67	16.026
10,125.0	9,870.9	9,875.0	9,640.9	42.8	17.4	-107.25	19.3	1,061.0	978.7	918.3		60.41	16.201
10,150.0	9,895.7	9,875.0	9,640.9	42.8	17.4	-106.39	19.3	1,061.0	985.9	925.9		59.93	16.451
10,175.0	9,920.3	9,888.3	9,651.2	42.8	17.4	-106.02	10.8	1,061.1	993.7	934.1		59.63	16.665

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 522H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	49.0	0.0	0.0	0.4	-169.99	-449.5	-79.3	456.5	455.5	1.00	455.061	
100.0	100.0	149.0	100.0	1.2	1.1	-169.99	-449.5	-79.3	456.5	453.7	2.76	165.662	
200.0	200.0	249.0	200.0	1.7	1.7	-169.99	-449.5	-79.3	456.5	452.7	3.80	119.977	
300.0	300.0	349.0	300.0	2.1	2.1	-169.99	-449.5	-79.3	456.5	451.9	4.59	99.442	
400.0	400.0	449.0	400.0	2.4	2.4	-169.99	-449.5	-79.3	456.5	451.2	5.25	86.916	
500.0	500.0	549.0	500.0	2.7	2.7	-169.99	-449.5	-79.3	456.5	450.6	5.84	78.210	
600.0	600.0	649.0	600.0	3.0	3.0	-169.99	-449.5	-79.3	456.5	450.1	6.37	71.689	
700.0	700.0	749.0	700.0	3.2	3.2	-169.99	-449.5	-79.3	456.5	449.6	6.86	66.559	
800.0	800.0	849.0	800.0	3.5	3.5	-169.99	-449.5	-79.3	456.5	449.1	7.32	62.380	
900.0	900.0	949.0	900.0	3.7	3.7	-169.99	-449.5	-79.3	456.5	448.7	7.75	58.889	
1,000.0	1,000.0	1,049.0	1,000.0	3.9	3.9	-169.99	-449.5	-79.3	456.5	448.3	8.16	55.911 CC, ES	
1,100.0	1,100.0	1,149.0	1,100.0	4.2	4.1	109.61	-449.5	-79.3	457.0	448.5	8.57	53.355	
1,200.0	1,199.8	1,248.8	1,199.8	4.5	4.3	110.19	-449.5	-79.3	458.8	449.9	8.95	51.263	
1,300.0	1,299.5	1,348.5	1,299.5	4.9	4.5	111.15	-449.5	-79.3	461.9	452.6	9.33	49.506	
1,400.0	1,398.7	1,447.7	1,398.7	5.2	4.6	112.45	-449.5	-79.3	466.5	456.8	9.71	48.031	
1,500.0	1,497.5	1,546.5	1,497.5	5.5	4.8	114.07	-449.5	-79.3	472.7	462.6	10.10	46.795	
1,600.0	1,595.6	1,644.6	1,595.6	5.9	5.0	115.97	-449.5	-79.3	480.9	470.4	10.51	45.763	
1,700.0	1,693.1	1,742.1	1,693.1	6.3	5.1	118.09	-449.5	-79.3	491.3	480.4	10.94	44.911	
1,767.5	1,758.3	1,807.3	1,758.3	6.5	5.3	119.63	-449.5	-79.3	499.8	488.6	11.21	44.605	
1,800.0	1,789.7	1,838.7	1,789.7	6.6	5.3	120.46	-449.5	-79.3	504.2	492.9	11.32	44.534	
1,900.0	1,886.1	1,935.1	1,886.1	6.9	5.5	122.92	-449.5	-79.3	518.5	506.7	11.79	43.979	
2,000.0	1,982.6	2,030.9	1,981.9	7.3	5.6	125.25	-449.5	-79.5	533.7	521.5	12.28	43.463	
2,100.0	2,079.0	2,124.2	2,075.1	7.7	5.8	127.64	-448.6	-81.9	550.2	537.4	12.78	43.052	
2,200.0	2,175.4	2,215.7	2,166.5	8.1	6.0	130.15	-446.7	-87.0	568.3	555.0	13.30	42.740	
2,300.0	2,271.9	2,308.4	2,258.9	8.5	6.1	132.76	-444.0	-94.4	588.2	574.4	13.80	42.607	
2,400.0	2,368.3	2,402.5	2,352.6	8.9	6.3	135.26	-441.2	-102.1	609.3	594.9	14.39	42.332	
2,500.0	2,464.7	2,496.5	2,446.3	9.3	6.5	137.61	-438.4	-109.8	631.5	616.5	15.00	42.096	
2,600.0	2,561.2	2,590.6	2,540.0	9.8	6.7	139.80	-435.6	-117.5	654.8	639.2	15.63	41.894	
2,700.0	2,657.6	2,690.9	2,639.9	10.2	6.9	142.00	-432.3	-125.7	678.8	662.5	16.26	41.755	
2,800.0	2,754.0	2,801.9	2,750.2	10.6	7.2	144.47	-425.3	-135.2	701.8	684.8	17.03	41.216	
2,900.0	2,850.5	2,912.2	2,859.5	11.1	7.5	147.02	-414.1	-144.9	723.6	705.8	17.80	40.657	
3,000.0	2,946.9	3,021.6	2,967.4	11.5	7.9	149.65	-398.9	-155.0	744.3	725.7	18.57	40.082	
3,100.0	3,043.3	3,129.3	3,072.9	12.0	8.2	152.35	-379.8	-165.2	764.3	745.0	19.34	39.527	
3,200.0	3,139.8	3,221.8	3,163.2	12.5	8.5	154.64	-361.9	-174.2	784.8	764.8	20.05	39.137	
3,300.0	3,236.2	3,314.2	3,253.4	12.9	8.8	156.83	-343.9	-183.1	806.6	785.8	20.79	38.798	
3,400.0	3,332.6	3,406.7	3,343.7	13.4	9.1	158.91	-326.0	-192.0	829.5	808.0	21.53	38.534	
3,500.0	3,429.1	3,499.1	3,433.9	13.9	9.4	160.88	-308.0	-201.0	853.6	831.3	22.27	38.333	
3,600.0	3,525.5	3,591.6	3,524.2	14.3	9.8	162.76	-290.0	-209.9	878.6	855.6	23.01	38.188	
3,700.0	3,621.9	3,684.1	3,614.4	14.8	10.1	164.54	-272.1	-218.8	904.6	880.8	23.75	38.090	
3,800.0	3,718.4	3,776.5	3,704.7	15.3	10.5	166.22	-254.1	-227.8	931.3	906.8	24.49	38.032	
3,900.0	3,814.8	3,869.0	3,794.9	15.7	10.8	167.82	-236.1	-236.7	958.9	933.7	25.23	38.010 SF	
4,000.0	3,911.2	3,961.4	3,885.2	16.2	11.2	169.33	-218.2	-245.6	987.1	961.2	25.97	38.016	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 523H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	49.0	0.0	0.0	0.4	-177.54	-449.3	-19.3	449.7	448.7	1.00	448.300	
100.0	100.0	149.0	100.0	1.2	1.1	-177.54	-449.3	-19.3	449.7	446.9	2.76	163.201	
200.0	200.0	249.0	200.0	1.7	1.7	-177.54	-449.3	-19.3	449.7	445.9	3.80	118.194	
300.0	300.0	349.0	300.0	2.1	2.1	-177.54	-449.3	-19.3	449.7	445.1	4.59	97.965	
400.0	400.0	449.0	400.0	2.4	2.4	-177.54	-449.3	-19.3	449.7	444.4	5.25	85.625	
500.0	500.0	549.0	500.0	2.7	2.7	-177.54	-449.3	-19.3	449.7	443.8	5.84	77.048	
600.0	600.0	649.0	600.0	3.0	3.0	-177.54	-449.3	-19.3	449.7	443.3	6.37	70.624	
700.0	700.0	749.0	700.0	3.2	3.2	-177.54	-449.3	-19.3	449.7	442.8	6.86	65.570	
800.0	800.0	849.0	800.0	3.5	3.5	-177.54	-449.3	-19.3	449.7	442.4	7.32	61.454	
900.0	900.0	949.0	900.0	3.7	3.7	-177.54	-449.3	-19.3	449.7	441.9	7.75	58.014	
1,000.0	1,000.0	1,049.0	1,000.0	3.9	3.9	-177.54	-449.3	-19.3	449.7	441.5	8.16	55.081	
1,100.0	1,100.0	1,149.0	1,100.0	4.2	4.1	102.08	-449.3	-19.3	450.0	441.5	8.56	52.589	
1,200.0	1,199.8	1,248.8	1,199.8	4.5	4.3	102.71	-449.3	-19.3	451.2	442.2	8.93	50.509	
1,300.0	1,299.5	1,348.5	1,299.5	4.9	4.5	103.74	-449.3	-19.3	453.2	443.9	9.30	48.728	
1,400.0	1,398.7	1,447.7	1,398.7	5.2	4.6	105.16	-449.3	-19.3	456.2	446.6	9.67	47.201	
1,500.0	1,497.5	1,550.0	1,501.0	5.5	4.9	106.96	-449.1	-18.9	460.4	450.4	10.05	45.829	
1,600.0	1,595.6	1,656.5	1,607.5	5.9	5.2	108.85	-447.9	-15.3	464.7	454.3	10.46	44.442	
1,700.0	1,693.1	1,763.7	1,714.4	6.3	5.5	110.73	-445.5	-7.8	468.9	458.0	10.89	43.062	
1,767.5	1,758.3	1,836.4	1,786.6	6.5	5.7	111.99	-443.1	-0.6	471.7	460.5	11.16	42.268	
1,800.0	1,789.7	1,871.6	1,821.6	6.6	5.8	112.59	-441.7	3.5	472.9	461.6	11.28	41.921	
1,900.0	1,886.1	1,980.4	1,929.2	6.9	6.1	114.17	-436.7	18.8	475.6	463.9	11.77	40.422	
2,000.0	1,982.6	2,090.1	2,036.9	7.3	6.5	115.32	-430.3	38.2	476.5	464.3	12.27	38.824	
2,100.0	2,079.0	2,200.2	2,144.3	7.7	6.9	116.06	-422.6	61.5	475.4	462.6	12.80	37.144	
2,200.0	2,175.4	2,310.5	2,250.8	8.1	7.3	116.38	-413.6	88.8	472.1	458.8	13.34	35.400	
2,300.0	2,271.9	2,420.7	2,355.9	8.5	7.7	116.28	-403.4	120.0	466.7	452.8	13.86	33.673	
2,400.0	2,368.3	2,520.7	2,450.8	8.9	8.0	115.98	-393.5	150.0	460.1	445.7	14.38	31.999	
2,500.0	2,464.7	2,620.4	2,545.4	9.3	8.4	115.67	-383.6	180.0	453.5	438.6	14.93	30.374	
2,600.0	2,561.2	2,720.2	2,640.0	9.8	8.8	115.36	-373.7	210.0	446.9	431.4	15.50	28.843	
2,700.0	2,657.6	2,819.9	2,734.6	10.2	9.2	115.03	-363.8	240.0	440.4	424.3	16.07	27.403	
2,800.0	2,754.0	2,919.7	2,829.2	10.6	9.6	114.70	-353.9	270.1	433.8	417.2	16.65	26.050	
2,900.0	2,850.5	3,019.4	2,923.9	11.1	10.0	114.35	-344.0	300.1	427.3	410.1	17.24	24.781	
3,000.0	2,946.9	3,119.2	3,018.5	11.5	10.4	114.00	-334.1	330.1	420.8	402.9	17.84	23.590	
3,100.0	3,043.3	3,218.9	3,113.1	12.0	10.8	113.63	-324.3	360.1	414.3	395.9	18.44	22.472	
3,200.0	3,139.8	3,318.7	3,207.7	12.5	11.3	113.25	-314.4	390.1	407.8	388.8	19.04	21.422	
3,300.0	3,236.2	3,418.5	3,302.3	12.9	11.7	112.86	-304.5	420.1	401.4	381.7	19.64	20.437	
3,400.0	3,332.6	3,518.2	3,397.0	13.4	12.2	112.46	-294.6	450.1	394.9	374.7	20.24	19.511	
3,500.0	3,429.1	3,618.0	3,491.6	13.9	12.6	112.04	-284.7	480.1	388.5	367.7	20.84	18.639	
3,600.0	3,525.5	3,717.7	3,586.2	14.3	13.1	111.61	-274.8	510.1	382.1	360.7	21.44	17.819	
3,700.0	3,621.9	3,817.5	3,680.8	14.8	13.5	111.17	-265.0	540.1	375.7	353.7	22.04	17.046	
3,800.0	3,718.4	3,917.2	3,775.4	15.3	14.0	110.70	-255.1	570.1	369.4	346.7	22.64	16.317	
3,900.0	3,814.8	4,017.0	3,870.1	15.7	14.5	110.23	-245.2	600.1	363.0	339.8	23.23	15.629	
4,000.0	3,911.2	4,116.7	3,964.7	16.2	15.0	109.73	-235.3	630.1	356.7	332.9	23.82	14.979	
4,100.0	4,007.7	4,216.5	4,059.3	16.7	15.4	109.22	-225.4	660.1	350.5	326.1	24.40	14.364	
4,200.0	4,104.1	4,316.2	4,153.9	17.2	15.9	108.69	-215.5	690.1	344.2	319.2	24.98	13.782	
4,300.0	4,200.5	4,416.0	4,248.5	17.7	16.4	108.14	-205.6	720.1	338.0	312.5	25.55	13.230	
4,400.0	4,297.0	4,515.7	4,343.2	18.1	16.9	107.57	-195.8	750.1	331.8	305.7	26.11	12.707	
4,500.0	4,393.4	4,615.5	4,437.8	18.6	17.4	106.98	-185.9	780.1	325.7	299.0	26.67	12.210	
4,600.0	4,489.8	4,715.2	4,532.4	19.1	17.9	106.37	-176.0	810.1	319.6	292.3	27.22	11.738	
4,700.0	4,586.3	4,815.0	4,627.0	19.6	18.3	105.73	-166.1	840.1	313.5	285.7	27.77	11.289	
4,800.0	4,682.7	4,914.8	4,721.6	20.1	18.8	105.07	-156.2	870.1	307.4	279.1	28.30	10.862	
4,900.0	4,779.1	5,014.5	4,816.3	20.6	19.3	104.38	-146.3	900.1	301.5	272.6	28.83	10.455	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 523H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.0	4,875.6	5,114.3	4,910.9	21.0	19.8	103.66	-136.5	930.1	295.5	266.1	29.36	10.066	
5,100.0	4,972.0	5,214.0	5,005.5	21.5	20.3	102.91	-126.6	960.1	289.6	259.7	29.87	9.696	
5,200.0	5,068.4	5,313.8	5,100.1	22.0	20.8	102.14	-116.7	990.1	283.8	253.4	30.37	9.342	
5,300.0	5,164.9	5,413.5	5,194.7	22.5	21.3	101.33	-106.8	1,020.1	278.0	247.1	30.87	9.003	
5,400.0	5,261.3	5,513.3	5,289.3	23.0	21.8	100.48	-96.9	1,050.1	272.2	240.9	31.36	8.679	
5,500.0	5,357.7	5,613.0	5,384.0	23.5	22.3	99.60	-87.0	1,080.1	266.6	234.7	31.85	8.369	
5,600.0	5,454.2	5,712.8	5,478.6	24.0	22.8	98.68	-77.1	1,110.1	260.9	228.6	32.33	8.071	
5,700.0	5,550.6	5,812.5	5,573.2	24.5	23.3	97.72	-67.3	1,140.1	255.4	222.6	32.80	7.786	
5,800.0	5,647.0	5,912.3	5,667.8	25.0	23.8	96.72	-57.4	1,170.1	249.9	216.7	33.28	7.511	
5,900.0	5,743.4	6,012.0	5,762.4	25.5	24.3	95.68	-47.5	1,200.1	244.6	210.8	33.75	7.247	
6,000.0	5,839.9	6,111.8	5,857.1	25.9	24.8	94.59	-37.6	1,230.1	239.3	205.0	34.22	6.992	
6,100.0	5,936.3	6,211.5	5,951.7	26.4	25.3	93.45	-27.7	1,260.1	234.0	199.4	34.69	6.747	
6,200.0	6,032.7	6,311.3	6,046.3	26.9	25.8	92.26	-17.8	1,290.1	228.9	193.8	35.17	6.509	
6,300.0	6,129.2	6,411.1	6,140.9	27.4	26.3	91.01	-7.9	1,320.1	223.9	188.3	35.66	6.279	
6,400.0	6,225.6	6,510.8	6,235.5	27.9	26.8	89.71	1.9	1,350.1	219.0	182.9	36.17	6.056	
6,500.0	6,322.0	6,610.6	6,330.2	28.4	27.3	88.35	11.8	1,380.1	214.2	177.6	36.69	5.840	
6,600.0	6,418.5	6,710.3	6,424.8	28.9	27.8	86.93	21.7	1,410.1	209.6	172.4	37.24	5.629	
6,700.0	6,514.9	6,810.1	6,519.4	29.4	28.3	85.44	31.6	1,440.1	205.1	167.3	37.81	5.423	
6,800.0	6,611.3	6,909.7	6,614.1	29.9	28.8	84.06	41.3	1,469.6	200.7	162.3	38.41	5.226	
6,900.0	6,707.8	7,009.4	6,709.4	30.4	29.3	83.11	50.5	1,497.5	196.5	157.5	39.02	5.038	
7,000.0	6,804.2	7,109.2	6,805.3	30.9	29.8	82.64	59.2	1,523.9	192.4	152.8	39.60	4.860	
7,100.0	6,900.6	7,209.1	6,901.6	31.4	30.3	82.68	67.3	1,548.7	188.4	148.2	40.15	4.692	
7,200.0	6,997.1	7,308.9	6,998.4	31.9	30.8	83.26	75.0	1,571.9	184.4	143.7	40.66	4.534	
7,300.0	7,093.5	7,408.6	7,095.5	32.4	31.3	84.41	82.1	1,593.4	180.4	139.3	41.15	4.385	
7,400.0	7,189.9	7,508.2	7,192.9	32.9	31.8	86.18	88.7	1,613.3	176.7	135.1	41.66	4.242	
7,500.0	7,286.4	7,607.6	7,290.4	33.4	32.2	88.58	94.7	1,631.6	173.4	131.2	42.26	4.104	
7,600.0	7,382.8	7,706.7	7,387.9	33.9	32.7	91.62	100.1	1,648.2	170.7	127.7	43.04	3.966	
7,700.0	7,479.2	7,805.4	7,485.4	34.4	33.1	95.31	105.1	1,663.2	168.9	124.8	44.12	3.828	
7,786.8	7,562.9	7,890.8	7,569.9	34.8	33.5	98.99	108.9	1,674.9	168.4	123.0	45.40	3.709 CC	
7,800.0	7,575.7	7,903.8	7,582.8	34.9	33.5	99.58	109.5	1,676.5	168.4	122.8	45.63	3.690	
7,900.0	7,672.1	8,001.7	7,679.9	35.4	34.0	104.36	113.3	1,688.2	169.5	121.9	47.62	3.559 ES	
8,000.0	7,768.5	8,099.2	7,776.8	35.9	34.4	109.51	116.6	1,698.3	172.6	122.5	50.09	3.445	
8,100.0	7,865.0	8,196.1	7,873.3	36.4	34.7	114.85	119.4	1,706.7	178.0	125.1	52.93	3.363	
8,119.1	7,883.4	8,214.5	7,891.6	36.4	34.8	115.88	119.9	1,708.1	179.3	125.8	53.49	3.352	
8,200.0	7,961.6	8,292.5	7,969.4	36.8	35.1	120.12	121.7	1,713.6	185.7	129.8	55.88	3.324 SF	
8,300.0	8,058.6	8,388.6	8,065.3	37.3	35.4	124.91	123.4	1,718.9	195.1	136.5	58.64	3.327	
8,400.0	8,156.0	8,484.4	8,161.1	37.8	35.7	129.18	124.7	1,722.7	205.9	144.8	61.12	3.369	
8,500.0	8,253.8	8,580.0	8,256.6	38.3	36.0	132.96	125.4	1,724.9	217.9	154.6	63.27	3.443	
8,600.0	8,351.9	8,675.3	8,351.9	38.8	36.2	136.28	125.7	1,725.7	230.8	165.7	65.06	3.548	
8,700.0	8,450.4	8,773.8	8,450.4	39.2	36.2	139.18	125.7	1,725.7	243.8	177.1	66.66	3.658	
8,800.0	8,549.2	8,872.5	8,549.2	39.7	36.2	141.55	125.7	1,725.7	256.0	188.0	68.00	3.764	
8,900.0	8,648.2	8,971.6	8,648.2	40.1	36.2	143.47	125.7	1,725.7	267.1	198.0	69.13	3.864	
9,000.0	8,747.4	9,070.8	8,747.4	40.5	36.3	145.03	125.7	1,725.7	277.1	207.0	70.10	3.952	
9,100.0	8,846.9	9,170.2	8,846.9	40.9	36.3	146.29	125.7	1,725.7	285.8	214.8	70.94	4.029	
9,200.0	8,946.5	9,269.9	8,946.5	41.3	36.3	147.28	125.7	1,725.7	293.1	221.5	71.66	4.091	
9,300.0	9,046.2	9,369.6	9,046.2	41.7	36.4	148.04	125.7	1,725.7	299.1	226.8	72.27	4.138	
9,400.0	9,146.1	9,469.5	9,146.1	42.0	36.4	148.60	125.7	1,725.7	303.6	230.8	72.80	4.171	
9,500.0	9,246.0	9,569.4	9,246.0	42.3	36.4	148.96	125.7	1,725.7	306.7	233.4	73.23	4.188	
9,600.0	9,346.0	9,669.4	9,346.0	42.6	36.4	149.14	125.7	1,725.7	308.2	234.7	73.55	4.190	
9,654.0	9,400.0	9,723.4	9,400.0	42.7	36.5	-130.24	125.7	1,725.7	308.4	234.8	73.64	4.189	
9,700.0	9,446.0	9,769.4	9,446.0	42.7	36.5	-130.24	125.7	1,725.7	308.4	234.8	73.66	4.187	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: FURY ROAD PROJECT - FURY ROAD FED COM 523H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,800.0	9,546.0	9,869.4	9,546.0	42.7	36.5	-130.24	125.7	1,725.7	308.4	234.7	73.71	4.184	
9,900.0	9,646.0	9,969.4	9,646.0	42.7	36.5	-130.24	125.7	1,725.7	308.4	234.7	73.77	4.181	
10,000.0	9,746.0	10,069.4	9,746.0	42.7	36.6	-130.24	125.7	1,725.7	308.4	234.6	73.82	4.178	
10,076.5	9,822.5	10,145.9	9,822.5	42.7	36.6	-130.24	125.7	1,725.7	308.4	234.6	73.86	4.176	
10,100.0	9,846.0	10,168.6	9,846.0	42.8	36.6	-130.07	125.7	1,725.7	308.8	235.0	73.82	4.183	
10,125.0	9,870.9	10,188.1	9,864.8	42.8	36.6	-130.22	125.2	1,725.8	310.3	236.9	73.44	4.225	
10,150.0	9,895.7	10,207.3	9,883.9	42.8	36.6	-130.52	123.9	1,726.1	313.1	240.2	72.93	4.293	
10,175.0	9,920.3	10,225.0	9,901.5	42.8	36.6	-130.88	122.1	1,726.6	317.2	245.0	72.24	4.391	
10,200.0	9,944.6	10,243.6	9,919.9	42.8	36.6	-131.39	119.6	1,727.3	322.7	251.2	71.50	4.514	
10,225.0	9,968.6	10,260.4	9,936.4	42.9	36.6	-131.85	116.7	1,728.2	329.7	259.1	70.59	4.670	
10,250.0	9,992.2	10,275.0	9,950.7	42.9	36.6	-132.17	113.7	1,729.0	338.1	268.6	69.52	4.863	
10,275.0	10,015.3	10,290.7	9,965.9	42.9	36.5	-132.57	110.0	1,730.0	348.0	279.5	68.47	5.082	
10,300.0	10,037.9	10,304.1	9,978.8	42.9	36.5	-132.72	106.5	1,731.0	359.3	292.0	67.30	5.340	
10,325.0	10,059.9	10,316.2	9,990.4	43.0	36.5	-132.67	103.0	1,731.9	372.2	306.1	66.10	5.631	
10,350.0	10,081.3	10,325.0	9,998.7	43.0	36.5	-132.11	100.3	1,732.7	386.4	321.6	64.81	5.963	
10,375.0	10,101.9	10,336.8	10,009.8	43.0	36.5	-131.76	96.5	1,733.7	402.0	338.3	63.70	6.311	
10,400.0	10,121.8	10,345.2	10,017.7	43.1	36.5	-130.82	93.6	1,734.6	418.8	356.3	62.56	6.695	
10,425.0	10,140.9	10,350.0	10,022.1	43.1	36.5	-129.11	91.9	1,735.0	436.8	375.4	61.38	7.117	
10,450.0	10,159.1	10,358.8	10,030.2	43.1	36.5	-127.68	88.6	1,735.9	455.8	395.3	60.45	7.540	
10,475.0	10,176.3	10,364.0	10,035.0	43.1	36.5	-125.35	86.6	1,736.5	475.7	416.2	59.51	7.995	
10,500.0	10,192.6	10,368.2	10,038.8	43.2	36.5	-122.41	85.0	1,736.9	496.4	437.8	58.64	8.465	
10,525.0	10,207.9	10,375.0	10,045.0	43.2	36.5	-119.47	82.2	1,737.7	517.9	459.9	57.96	8.935	
10,550.0	10,222.1	10,375.0	10,045.0	43.2	36.5	-114.54	82.2	1,737.7	539.9	482.7	57.19	9.440	
10,575.0	10,235.2	10,375.0	10,045.0	43.3	36.5	-108.83	82.2	1,737.7	562.3	505.8	56.52	9.949	
10,600.0	10,247.2	10,375.0	10,045.0	43.3	36.5	-102.33	82.2	1,737.7	585.2	529.2	55.94	10.460	
10,625.0	10,258.1	10,375.0	10,045.0	43.3	36.5	-95.13	82.2	1,737.7	608.3	552.8	55.45	10.969	
10,650.0	10,267.7	10,375.0	10,045.0	43.3	36.5	-87.42	82.2	1,737.7	631.6	576.5	55.04	11.476	
10,675.0	10,276.1	10,375.0	10,045.0	43.4	36.5	-79.48	82.2	1,737.7	655.0	600.3	54.69	11.977	
10,700.0	10,283.3	10,375.0	10,045.0	43.4	36.5	-71.65	82.2	1,737.7	678.4	624.0	54.40	12.471	
10,725.0	10,289.2	10,375.0	10,045.0	43.4	36.5	-64.25	82.2	1,737.7	701.8	647.7	54.16	12.957	
10,750.0	10,293.8	10,375.0	10,045.0	43.4	36.5	-57.47	82.2	1,737.7	725.2	671.2	53.98	13.435	
10,775.0	10,297.2	10,366.5	10,037.3	43.5	36.5	-50.32	85.6	1,736.8	748.2	694.5	53.67	13.940	
10,800.0	10,299.2	10,363.2	10,034.2	43.5	36.5	-44.90	86.9	1,736.4	771.1	717.6	53.51	14.410	
10,826.5	10,300.0	10,359.2	10,030.6	43.5	36.5	-40.00	88.4	1,736.0	795.0	741.7	53.37	14.897	
10,900.0	10,300.0	10,350.0	10,022.1	43.6	36.5	-39.24	91.9	1,735.0	861.4	808.3	53.09	16.225	
11,000.0	10,300.0	10,335.3	10,008.4	43.7	36.5	-38.07	97.0	1,733.6	952.9	900.2	52.75	18.066	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: OHANA PROJECT - OHANA FEDERAL COM 501H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1, 9466-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
12,600.0	10,300.0	20,456.9	9,648.0	48.3	100.1	45.02	2,918.7	2,603.7	983.2	855.6	127.61	7.705	
12,700.0	10,300.0	20,456.9	9,648.0	48.8	100.1	45.02	2,918.7	2,603.7	953.2	822.3	130.88	7.283	
12,800.0	10,300.0	20,456.9	9,648.0	49.3	100.1	45.02	2,918.7	2,603.7	933.0	799.7	133.28	7.000	
12,900.0	10,300.0	20,456.9	9,648.0	49.7	100.1	45.02	2,918.7	2,603.7	923.3	788.7	134.58	6.861	
12,940.4	10,300.0	20,456.9	9,648.0	50.0	100.1	45.02	2,918.7	2,603.7	922.4	787.6	134.76	6.845 CC	
13,000.0	10,300.0	20,398.0	9,648.0	50.2	99.7	45.03	2,977.7	2,603.5	922.4	787.8	134.65	6.851	
13,100.0	10,300.0	20,298.0	9,648.0	50.8	98.8	45.03	3,077.7	2,603.2	922.5	788.0	134.48	6.860	
13,200.0	10,300.0	20,198.0	9,648.0	51.3	98.0	45.04	3,177.7	2,602.9	922.6	788.3	134.32	6.868	
13,300.0	10,300.0	20,098.0	9,648.0	51.8	97.2	45.04	3,277.7	2,602.7	922.7	788.5	134.19	6.876	
13,400.0	10,300.0	19,998.0	9,648.0	52.4	96.3	45.04	3,377.7	2,602.4	922.7	788.7	134.07	6.883	
13,500.0	10,300.0	19,898.0	9,648.0	53.0	95.5	45.05	3,477.7	2,602.1	922.8	788.9	133.97	6.888	
13,600.0	10,300.0	19,798.0	9,648.0	53.5	94.7	45.05	3,577.7	2,601.8	922.9	789.0	133.88	6.893	
13,700.0	10,300.0	19,698.0	9,648.0	54.1	93.8	45.06	3,677.7	2,601.6	923.0	789.2	133.82	6.897	
13,800.0	10,300.0	19,598.0	9,648.0	54.8	93.0	45.06	3,777.7	2,601.3	923.0	789.3	133.77	6.900	
13,900.0	10,300.0	19,498.0	9,648.0	55.4	92.2	45.07	3,877.7	2,601.0	923.1	789.4	133.75	6.902	
14,000.0	10,300.0	19,398.0	9,648.0	56.0	91.3	45.07	3,977.7	2,600.7	923.2	789.5	133.74	6.903	
14,100.0	10,300.0	19,298.0	9,648.0	56.6	90.5	45.08	4,077.7	2,600.4	923.3	789.5	133.74	6.903	
14,200.0	10,300.0	19,198.0	9,648.0	57.3	89.7	45.08	4,177.7	2,600.2	923.3	789.6	133.77	6.902	
14,300.0	10,300.0	19,098.0	9,648.0	57.9	88.9	45.09	4,277.7	2,599.9	923.4	789.6	133.82	6.901	
14,400.0	10,300.0	18,998.0	9,648.0	58.6	88.0	45.09	4,377.7	2,599.6	923.5	789.6	133.88	6.898	
14,500.0	10,300.0	18,898.0	9,648.0	59.3	87.2	45.10	4,477.7	2,599.3	923.6	789.6	133.96	6.894	
14,600.0	10,300.0	18,798.0	9,648.0	60.0	86.4	45.10	4,577.7	2,599.1	923.6	789.6	134.06	6.890	
14,700.0	10,300.0	18,698.0	9,648.0	60.7	85.6	45.10	4,677.7	2,598.8	923.7	789.5	134.18	6.884	
14,800.0	10,300.0	18,598.0	9,648.0	61.4	84.7	45.11	4,777.7	2,598.5	923.8	789.5	134.31	6.878	
14,900.0	10,300.0	18,498.0	9,648.0	62.1	83.9	45.11	4,877.7	2,598.2	923.9	789.4	134.47	6.871	
15,000.0	10,300.0	18,398.0	9,648.0	62.8	83.1	45.12	4,977.7	2,597.9	923.9	789.3	134.64	6.862	
15,100.0	10,300.0	18,298.0	9,648.0	63.5	82.3	45.12	5,077.7	2,597.7	924.0	789.2	134.83	6.853	
15,200.0	10,300.0	18,198.0	9,648.0	64.2	81.4	45.13	5,177.7	2,597.4	924.1	789.1	135.04	6.843	
15,300.0	10,300.0	18,098.0	9,648.0	65.0	80.6	45.13	5,277.7	2,597.1	924.2	788.9	135.26	6.832	
15,400.0	10,300.0	17,998.0	9,648.0	65.7	79.8	45.14	5,377.7	2,596.8	924.2	788.7	135.51	6.821	
15,500.0	10,300.0	17,898.0	9,648.0	66.5	79.0	45.14	5,477.7	2,596.6	924.3	788.6	135.77	6.808	
15,600.0	10,300.0	17,798.0	9,648.0	67.2	78.2	45.15	5,577.7	2,596.3	924.4	788.4	136.05	6.795	
15,700.0	10,300.0	17,698.0	9,648.0	68.0	77.4	45.15	5,677.7	2,596.0	924.5	788.1	136.34	6.781	
15,800.0	10,300.0	17,598.0	9,648.0	68.7	76.5	45.16	5,777.7	2,595.7	924.5	787.9	136.65	6.766	
15,900.0	10,300.0	17,498.0	9,648.0	69.5	75.7	45.16	5,877.7	2,595.4	924.6	787.6	136.98	6.750	
16,000.0	10,300.0	17,398.0	9,648.0	70.3	74.9	45.16	5,977.7	2,595.2	924.7	787.4	137.33	6.733	
16,100.0	10,300.0	17,298.0	9,648.0	71.1	74.1	45.17	6,077.7	2,594.9	924.8	787.1	137.70	6.716	
16,200.0	10,300.0	17,198.0	9,648.0	71.8	73.3	45.17	6,177.7	2,594.6	924.8	786.8	138.08	6.698	
16,300.0	10,300.0	17,098.0	9,648.0	72.6	72.5	45.18	6,277.7	2,594.3	924.9	786.4	138.47	6.679	
16,400.0	10,300.0	16,998.0	9,648.0	73.4	71.7	45.18	6,377.7	2,594.1	925.0	786.1	138.89	6.660	
16,500.0	10,300.0	16,898.0	9,648.0	74.2	70.9	45.19	6,477.7	2,593.8	925.1	785.8	139.32	6.640	
16,600.0	10,300.0	16,798.0	9,648.0	75.0	70.1	45.19	6,577.7	2,593.5	925.1	785.4	139.77	6.619	
16,700.0	10,300.0	16,698.0	9,648.0	75.8	69.3	45.20	6,677.7	2,593.2	925.2	785.0	140.23	6.598	
16,800.0	10,300.0	16,598.0	9,648.0	76.6	68.5	45.20	6,777.7	2,592.9	925.3	784.6	140.71	6.576	
16,900.0	10,300.0	16,498.0	9,648.0	77.4	67.7	45.21	6,877.7	2,592.7	925.4	784.2	141.20	6.554	
17,000.0	10,300.0	16,398.0	9,648.0	78.3	66.9	45.21	6,977.7	2,592.4	925.4	783.7	141.71	6.531	
17,100.0	10,300.0	16,298.0	9,648.0	79.1	66.1	45.22	7,077.7	2,592.1	925.5	783.3	142.24	6.507	
17,200.0	10,300.0	16,198.0	9,648.0	79.9	65.3	45.22	7,177.7	2,591.8	925.6	782.8	142.78	6.483	
17,300.0	10,300.0	16,098.0	9,648.0	80.7	64.5	45.22	7,277.7	2,591.6	925.7	782.3	143.33	6.458	
17,400.0	10,300.0	15,998.0	9,648.0	81.6	63.7	45.23	7,377.7	2,591.3	925.7	781.8	143.90	6.433	
17,500.0	10,300.0	15,898.0	9,648.0	82.4	62.9	45.23	7,477.7	2,591.0	925.8	781.3	144.49	6.408	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: OHANA PROJECT - OHANA FEDERAL COM 501H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1, 9466-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
17,600.0	10,300.0	15,798.0	9,648.0	83.2	62.1	45.24	7,577.7	2,590.7	925.9	780.8	145.09	6.382	
17,700.0	10,300.0	15,698.0	9,648.0	84.1	61.4	45.24	7,677.7	2,590.4	926.0	780.3	145.70	6.355	
17,800.0	10,300.0	15,598.0	9,648.0	84.9	60.6	45.25	7,777.7	2,590.2	926.0	779.7	146.33	6.328	
17,900.0	10,300.0	15,498.0	9,648.0	85.8	59.8	45.25	7,877.6	2,589.9	926.1	779.2	146.97	6.301	
18,000.0	10,300.0	15,398.0	9,648.0	86.6	59.0	45.26	7,977.6	2,589.6	926.2	778.6	147.63	6.274	
18,100.0	10,300.0	15,298.0	9,648.0	87.5	58.2	45.26	8,077.6	2,589.3	926.3	778.0	148.30	6.246	
18,200.0	10,300.0	15,197.7	9,648.0	88.3	57.5	45.27	8,177.9	2,589.0	926.3	777.4	148.98	6.218	
18,300.0	10,300.0	15,097.7	9,648.0	89.2	56.7	45.27	8,277.9	2,588.7	926.4	776.7	149.68	6.189	
18,400.0	10,300.0	14,997.7	9,648.0	90.0	55.9	45.27	8,377.9	2,588.4	926.4	776.1	150.39	6.160	
18,500.0	10,300.0	14,897.7	9,648.0	90.9	55.2	45.27	8,477.9	2,588.1	926.5	775.4	151.11	6.131	
18,600.0	10,300.0	14,797.7	9,648.0	91.7	54.4	45.28	8,577.9	2,587.8	926.5	774.7	151.85	6.102	
18,700.0	10,300.0	14,697.7	9,648.0	92.6	53.7	45.28	8,677.9	2,587.5	926.6	774.0	152.59	6.072	
18,800.0	10,300.0	14,597.7	9,648.0	93.5	52.9	45.28	8,777.9	2,587.2	926.6	773.3	153.35	6.043	
18,900.0	10,300.0	14,497.7	9,648.0	94.3	52.2	45.29	8,877.9	2,586.9	926.7	772.6	154.12	6.013	
19,000.0	10,300.0	14,397.7	9,648.0	95.2	51.4	45.29	8,977.9	2,586.5	926.7	771.8	154.91	5.983	
19,100.0	10,300.0	14,297.7	9,648.0	96.1	50.7	45.29	9,077.9	2,586.2	926.8	771.1	155.70	5.952	
19,200.0	10,300.0	14,197.7	9,648.0	97.0	50.0	45.30	9,177.9	2,585.9	926.8	770.3	156.51	5.922	
19,300.0	10,300.0	14,097.7	9,648.0	97.8	49.2	45.30	9,277.9	2,585.6	926.9	769.6	157.33	5.891	
19,400.0	10,300.0	13,997.7	9,648.0	98.7	48.5	45.30	9,377.9	2,585.3	926.9	768.8	158.16	5.861	
19,500.0	10,300.0	13,897.7	9,648.0	99.6	47.8	45.30	9,477.9	2,585.0	927.0	768.0	159.00	5.830	
19,600.0	10,300.0	13,797.7	9,648.0	100.5	47.1	45.31	9,577.9	2,584.7	927.0	767.2	159.85	5.799	
19,700.0	10,300.0	13,697.7	9,648.0	101.3	46.4	45.31	9,677.9	2,584.3	927.1	766.4	160.72	5.768	
19,800.0	10,300.0	13,597.7	9,648.0	102.2	45.7	45.31	9,777.9	2,584.0	927.1	765.5	161.59	5.738	
19,900.0	10,300.0	13,497.7	9,648.0	103.1	45.0	45.32	9,877.9	2,583.7	927.2	764.7	162.48	5.707	
20,000.0	10,300.0	13,397.7	9,648.0	104.0	44.3	45.32	9,977.9	2,583.4	927.2	763.9	163.37	5.676	
20,100.0	10,300.0	13,297.7	9,648.0	104.9	43.6	45.32	10,077.9	2,583.1	927.3	763.0	164.27	5.645	
20,200.0	10,300.0	13,197.7	9,648.0	105.8	42.9	45.33	10,177.9	2,582.8	927.3	762.1	165.19	5.614	
20,300.0	10,300.0	13,097.7	9,648.0	106.7	42.3	45.33	10,277.9	2,582.5	927.4	761.3	166.11	5.583	
20,400.0	10,300.0	12,997.7	9,648.0	107.6	41.6	45.33	10,377.9	2,582.2	927.4	760.4	167.05	5.552	
20,500.0	10,300.0	12,897.7	9,648.0	108.5	41.0	45.33	10,477.9	2,581.8	927.5	759.5	167.99	5.521	
20,600.0	10,300.0	12,797.7	9,648.0	109.4	40.3	45.34	10,577.9	2,581.5	927.5	758.6	168.94	5.490	
20,700.0	10,300.0	12,697.7	9,648.0	110.2	39.7	45.34	10,677.9	2,581.2	927.6	757.7	169.91	5.459	
20,800.0	10,300.0	12,597.7	9,648.0	111.1	39.1	45.34	10,777.9	2,580.9	927.6	756.8	170.88	5.429	
20,900.0	10,300.0	12,497.7	9,648.0	112.0	38.5	45.35	10,877.9	2,580.6	927.7	755.8	171.86	5.398	
21,000.0	10,300.0	12,397.7	9,648.0	112.9	37.9	45.35	10,977.9	2,580.3	927.7	754.9	172.84	5.367	
21,100.0	10,300.0	12,297.7	9,648.0	113.8	37.3	45.35	11,077.9	2,580.0	927.8	753.9	173.84	5.337	
21,200.0	10,300.0	12,197.7	9,648.0	114.7	36.8	45.36	11,177.9	2,579.6	927.8	753.0	174.85	5.307	
21,300.0	10,300.0	12,097.7	9,648.0	115.6	36.3	45.36	11,277.9	2,579.3	927.9	752.0	175.86	5.276	
21,400.0	10,300.0	11,997.7	9,648.0	116.6	35.7	45.36	11,377.9	2,579.0	927.9	751.1	176.88	5.246	
21,500.0	10,300.0	11,897.7	9,648.0	117.5	35.2	45.36	11,477.9	2,578.7	928.0	750.1	177.91	5.216	
21,600.0	10,300.0	11,797.7	9,648.0	118.4	34.8	45.37	11,577.9	2,578.4	928.0	749.1	178.95	5.186	
21,700.0	10,300.0	11,697.7	9,648.0	119.3	34.3	45.37	11,677.9	2,578.1	928.1	748.1	180.00	5.156	
21,800.0	10,300.0	11,597.7	9,648.0	120.2	33.9	45.37	11,777.9	2,577.8	928.1	747.1	181.05	5.126	
21,900.0	10,300.0	11,497.7	9,648.0	121.1	33.5	45.38	11,877.9	2,577.4	928.2	746.1	182.11	5.097	
22,000.0	10,300.0	11,397.7	9,648.0	122.0	33.1	45.38	11,977.9	2,577.1	928.2	745.1	183.18	5.067	
22,100.0	10,300.0	11,297.7	9,648.0	122.9	32.7	45.38	12,077.9	2,576.8	928.3	744.0	184.25	5.038	
22,200.0	10,300.0	11,197.7	9,648.0	123.8	32.4	45.39	12,177.9	2,576.5	928.3	743.0	185.33	5.009	
22,300.0	10,300.0	11,097.7	9,648.0	124.7	32.1	45.39	12,277.9	2,576.2	928.4	742.0	186.42	4.980	
22,400.0	10,300.0	10,997.7	9,648.0	125.6	31.8	45.39	12,377.9	2,575.9	928.4	740.9	187.52	4.951	
22,500.0	10,300.0	10,897.7	9,648.0	126.6	31.5	45.39	12,477.9	2,575.6	928.5	739.9	188.62	4.923	
22,600.0	10,300.0	10,797.7	9,648.0	127.5	31.3	45.40	12,577.9	2,575.3	928.5	738.8	189.73	4.894	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: OHANA PROJECT - OHANA FEDERAL COM 501H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1, 9466-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
22,700.0	10,300.0	10,697.7	9,648.0	128.4	31.1	45.40	12,677.9	2,574.9	928.6	737.7	190.84	4.866	
22,800.0	10,300.0	10,597.7	9,648.0	129.3	30.9	45.40	12,777.9	2,574.6	928.6	736.7	191.97	4.837	
22,900.0	10,300.0	10,497.7	9,648.0	130.2	30.7	45.41	12,877.9	2,574.3	928.7	735.6	193.09	4.809	
23,000.0	10,300.0	10,397.7	9,648.0	131.1	30.6	45.41	12,977.9	2,574.0	928.7	734.5	194.23	4.782	
23,100.0	10,300.0	10,297.7	9,648.0	132.1	30.4	45.41	13,077.9	2,573.7	928.8	733.4	195.37	4.754	
23,100.4	10,300.0	10,297.3	9,648.0	132.1	30.4	45.41	13,078.3	2,573.7	928.8	733.4	195.37	4.754	
23,200.0	10,300.0	10,208.4	9,647.9	133.0	30.4	45.41	13,167.2	2,573.4	928.9	732.4	196.51	4.727 ES, SF	
23,300.0	10,300.0	10,166.3	9,645.4	133.9	30.3	45.30	13,209.2	2,573.3	933.2	736.1	197.17	4.733	
23,400.0	10,300.0	10,125.0	9,639.3	134.8	30.3	45.04	13,250.1	2,573.1	943.7	746.7	197.06	4.789	
23,407.2	10,300.0	10,125.0	9,639.3	134.9	30.3	45.04	13,250.1	2,573.1	944.7	747.8	196.96	4.797	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: OHANA PROJECT - SANDY FEDERAL 1 - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 200-r.5 INC-ONLY												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,775.0	10,297.2	10,349.0	10,298.4	43.5	262.2	89.21	893.2	2,946.5	997.2	626.0	371.25	2.686	Normal Operations
10,800.0	10,299.2	10,350.9	10,300.3	43.5	262.3	89.70	893.1	2,946.5	994.1	622.8	371.31	2.677	Normal Operations
10,826.5	10,300.0	10,351.4	10,300.8	43.5	262.3	90.05	893.1	2,946.5	991.4	620.1	371.31	2.670	Normal Operations
10,900.0	10,300.0	10,350.7	10,300.1	43.6	262.3	90.01	893.1	2,946.5	987.7	616.5	371.22	2.661	Normal Operations
10,913.5	10,300.0	10,350.6	10,300.0	43.6	262.3	90.00	893.1	2,946.5	987.6	616.4	371.20	2.661	Normal Operations, CC, ES, SF
11,000.0	10,300.0	10,349.9	10,299.3	43.7	262.3	89.96	893.2	2,946.5	991.4	620.3	371.06	2.672	Normal Operations

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: OHANA PROJECT - SANDY FEDERAL 20H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,700.0	7,479.2	7,575.7	7,497.5	34.4	11.3	-58.72	1,180.5	2,036.1	986.0	946.5	39.53	24.943	
7,800.0	7,575.7	7,672.1	7,593.8	34.9	11.3	-60.06	1,179.1	2,034.8	970.3	930.7	39.57	24.518	
7,900.0	7,672.1	7,771.0	7,692.8	35.4	11.3	-61.48	1,177.5	2,033.3	955.0	915.4	39.58	24.130	
8,000.0	7,768.5	7,867.2	7,788.9	35.9	11.2	-62.90	1,175.8	2,032.0	940.0	900.5	39.58	23.750	
8,100.0	7,865.0	7,964.1	7,885.8	36.4	11.3	-64.41	1,174.2	2,030.0	925.7	886.1	39.56	23.400	
8,119.1	7,883.4	7,980.3	7,902.0	36.4	11.3	-64.67	1,173.9	2,029.6	923.0	883.5	39.57	23.328	
8,200.0	7,961.6	8,046.8	7,968.5	36.8	11.3	-65.64	1,173.4	2,028.1	912.9	873.2	39.64	23.028	
8,300.0	8,058.6	8,148.2	8,069.8	37.3	11.4	-67.07	1,173.1	2,026.2	902.1	862.5	39.59	22.784	
8,400.0	8,156.0	8,245.9	8,167.5	37.8	11.4	-68.42	1,172.7	2,023.9	892.3	852.8	39.55	22.561	
8,500.0	8,253.8	8,342.8	8,264.4	38.3	11.5	-69.70	1,171.9	2,021.5	883.4	843.9	39.53	22.346	
8,600.0	8,351.9	8,444.5	8,366.1	38.8	11.6	-70.97	1,170.9	2,019.1	875.5	836.0	39.49	22.171	
8,700.0	8,450.4	8,548.2	8,469.7	39.2	11.6	-72.17	1,169.3	2,016.6	867.9	828.5	39.43	22.011	
8,800.0	8,549.2	8,648.7	8,570.1	39.7	11.6	-73.23	1,167.2	2,014.3	860.7	821.3	39.40	21.848	
8,900.0	8,648.2	8,744.2	8,665.6	40.1	11.6	-73.92	1,164.9	2,015.6	854.6	815.1	39.45	21.659	
9,000.0	8,747.4	8,835.8	8,756.7	40.5	11.5	-74.01	1,162.6	2,024.1	849.7	810.0	39.68	21.413	
9,100.0	8,846.9	8,930.8	8,850.2	40.9	11.5	-73.48	1,159.5	2,040.7	845.7	805.6	40.05	21.115	
9,200.0	8,946.5	9,011.9	8,928.7	41.3	11.4	-72.55	1,157.5	2,060.8	843.9	803.3	40.62	20.777	
9,270.2	9,016.5	9,084.2	8,998.7	41.6	11.4	-71.63	1,156.3	2,079.2	843.9	802.8	41.04	20.563 CC	
9,300.0	9,046.2	9,103.8	9,017.6	41.7	11.4	-71.36	1,156.0	2,084.4	844.0	802.8	41.24	20.465	
9,400.0	9,146.1	9,155.0	9,066.5	42.0	11.4	-70.57	1,156.4	2,099.5	848.5	806.6	41.97	20.217	
9,500.0	9,246.0	9,251.3	9,157.3	42.3	11.5	-68.81	1,160.0	2,131.2	857.6	814.7	42.87	20.003	
9,600.0	9,346.0	9,328.8	9,229.4	42.6	11.6	-67.19	1,162.5	2,159.4	868.7	824.8	43.86	19.805	
9,654.0	9,400.0	9,366.8	9,264.2	42.7	11.7	14.29	1,163.9	2,174.8	876.4	832.0	44.41	19.733	
9,700.0	9,446.0	9,401.7	9,296.0	42.7	11.7	15.17	1,165.6	2,189.0	883.9	839.0	44.88	19.693	
9,800.0	9,546.0	9,502.0	9,386.6	42.7	12.0	17.77	1,169.4	2,231.7	901.0	854.8	46.14	19.526	
9,900.0	9,646.0	9,546.3	9,424.4	42.7	12.1	19.17	1,169.8	2,254.8	921.5	874.4	47.13	19.552	
10,000.0	9,746.0	9,576.2	9,448.5	42.7	12.3	20.21	1,170.8	2,272.5	949.2	901.3	47.91	19.812	
10,076.5	9,822.5	9,597.0	9,464.5	42.7	12.4	20.97	1,172.0	2,285.7	975.3	926.9	48.41	20.146	
10,100.0	9,846.0	9,597.0	9,464.5	42.8	12.4	20.80	1,172.0	2,285.7	983.6	935.2	48.48	20.290	
10,125.0	9,870.9	9,613.1	9,476.4	42.8	12.5	21.04	1,173.2	2,296.4	991.7	942.8	48.87	20.293	
10,150.0	9,895.7	9,628.0	9,487.4	42.8	12.5	21.28	1,174.4	2,306.5	999.1	949.8	49.26	20.284	
10,650.0	10,267.7	9,736.8	9,560.8	43.3	13.3	26.41	1,189.5	2,385.2	996.9	941.5	55.41	17.992	
10,675.0	10,276.1	9,739.9	9,562.7	43.4	13.3	26.97	1,190.2	2,387.6	990.0	934.2	55.72	17.768	
10,700.0	10,283.3	9,742.9	9,564.5	43.4	13.4	27.56	1,190.8	2,389.8	982.5	926.4	56.02	17.537	
10,725.0	10,289.2	9,755.0	9,571.8	43.4	13.5	28.74	1,193.5	2,399.1	974.5	918.0	56.55	17.232	
10,750.0	10,293.8	9,755.0	9,571.8	43.4	13.5	29.28	1,193.5	2,399.1	965.9	909.1	56.80	17.005	
10,775.0	10,297.2	9,755.0	9,571.8	43.5	13.5	29.86	1,193.5	2,399.1	956.7	899.7	57.05	16.771	
10,800.0	10,299.2	9,755.0	9,571.8	43.5	13.5	30.50	1,193.5	2,399.1	947.1	889.8	57.30	16.529	
10,826.5	10,300.0	9,755.0	9,571.8	43.5	13.5	31.22	1,193.5	2,399.1	936.3	878.7	57.56	16.266	
10,900.0	10,300.0	9,755.0	9,571.8	43.6	13.5	31.22	1,193.5	2,399.1	908.2	849.9	58.25	15.590	
11,000.0	10,300.0	9,771.7	9,581.5	43.7	13.6	32.30	1,197.8	2,412.0	878.0	818.5	59.49	14.760	
11,100.0	10,300.0	9,786.0	9,589.6	43.8	13.8	33.22	1,202.0	2,423.0	858.2	797.8	60.41	14.208	
11,200.0	10,300.0	9,799.8	9,597.1	44.0	13.9	34.10	1,206.6	2,433.7	849.3	788.3	60.98	13.927	
11,230.7	10,300.0	9,805.3	9,600.1	44.0	13.9	34.45	1,208.5	2,437.9	848.8	787.7	61.13	13.886 ES	
11,300.0	10,300.0	9,818.0	9,606.7	44.2	14.1	35.25	1,213.1	2,447.7	851.4	790.1	61.32	13.884 SF	
11,400.0	10,300.0	9,850.0	9,622.9	44.4	14.4	37.24	1,225.5	2,472.3	864.0	802.3	61.70	14.003	
11,500.0	10,300.0	9,881.9	9,638.3	44.6	14.7	39.18	1,238.8	2,496.8	886.4	824.7	61.77	14.351	
11,600.0	10,300.0	9,934.2	9,661.6	44.8	15.3	42.21	1,263.8	2,536.4	917.3	855.1	62.19	14.750	
11,700.0	10,300.0	10,033.5	9,698.9	45.1	16.4	47.20	1,323.2	2,606.5	953.4	889.6	63.81	14.942	
11,800.0	10,300.0	10,148.7	9,734.0	45.4	17.7	51.92	1,405.3	2,679.3	990.7	925.0	65.73	15.074	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-40.0	40.0	39.5	0.48	83.430	
100.0	100.0	100.0	100.0	1.2	1.2	-90.00	0.0	-40.0	40.0	37.1	2.87	13.953	
200.0	200.0	200.0	200.0	1.7	1.7	-90.00	0.0	-40.0	40.0	36.1	3.86	10.353	
300.0	300.0	300.0	300.0	2.1	2.1	-90.00	0.0	-40.0	40.0	35.4	4.63	8.633	
400.0	400.0	400.0	400.0	2.4	2.4	-90.00	0.0	-40.0	40.0	34.7	5.29	7.566	
500.0	500.0	500.0	500.0	2.7	2.7	-90.00	0.0	-40.0	40.0	34.1	5.87	6.819	
600.0	600.0	600.0	600.0	3.0	3.0	-90.00	0.0	-40.0	40.0	33.6	6.39	6.256	
700.0	700.0	700.0	700.0	3.2	3.2	-90.00	0.0	-40.0	40.0	33.1	6.88	5.812	
800.0	800.0	800.0	800.0	3.5	3.5	-90.00	0.0	-40.0	40.0	32.7	7.34	5.450	
900.0	900.0	900.0	900.0	3.7	3.7	-90.00	0.0	-40.0	40.0	32.2	7.77	5.147	
1,000.0	1,000.0	1,000.0	1,000.0	3.9	3.9	-90.00	0.0	-40.0	40.0	31.8	8.18	4.889 CC, ES	
1,100.0	1,100.0	1,100.0	1,100.0	4.2	4.1	-170.98	0.0	-40.0	41.7	33.0	8.69	4.802 SF	
1,200.0	1,199.8	1,199.8	1,199.8	4.5	4.3	-171.97	0.0	-40.0	46.9	37.7	9.18	5.108	
1,300.0	1,299.5	1,299.5	1,299.5	4.9	4.5	-173.20	0.0	-40.0	55.5	45.9	9.68	5.735	
1,400.0	1,398.7	1,398.7	1,398.7	5.2	4.7	-174.40	0.0	-40.0	67.7	57.5	10.20	6.634	
1,500.0	1,497.5	1,497.5	1,497.5	5.5	4.8	-175.43	0.0	-40.0	83.2	72.5	10.73	7.760	
1,600.0	1,595.6	1,595.6	1,595.6	5.9	5.0	-176.25	0.0	-40.0	102.3	91.0	11.27	9.074	
1,700.0	1,693.1	1,693.1	1,693.1	6.3	5.2	-176.90	0.0	-40.0	124.7	112.9	11.83	10.543	
1,767.5	1,758.3	1,758.3	1,758.3	6.5	5.3	-177.26	0.0	-40.0	141.8	129.6	12.15	11.669	
1,800.0	1,789.7	1,789.7	1,789.7	6.6	5.3	-177.42	0.0	-40.0	150.4	138.1	12.29	12.237	
1,900.0	1,886.1	1,886.1	1,886.1	6.9	5.5	-177.64	0.3	-41.1	178.0	165.2	12.83	13.871	
2,000.0	1,982.6	1,971.2	1,971.1	7.3	5.7	-177.48	1.4	-44.9	208.3	195.0	13.37	15.581	
2,100.0	2,079.0	2,059.1	2,058.8	7.7	6.0	-177.10	3.1	-51.3	241.4	227.5	13.91	17.350	
2,200.0	2,175.4	2,145.3	2,144.4	8.1	6.2	-176.60	5.5	-60.0	277.2	262.7	14.46	19.167	
2,300.0	2,271.9	2,231.3	2,229.7	8.5	6.4	-176.03	8.6	-71.2	315.4	300.4	15.01	21.020	
2,400.0	2,368.3	2,323.4	2,320.8	8.9	6.6	-175.49	12.1	-83.9	354.5	338.9	15.63	22.681	
2,500.0	2,464.7	2,415.4	2,411.8	9.3	6.9	-175.06	15.6	-96.5	393.6	377.3	16.25	24.216	
2,600.0	2,561.2	2,507.4	2,502.9	9.8	7.1	-174.71	19.1	-109.2	432.7	415.8	16.90	25.607	
2,700.0	2,657.6	2,599.4	2,594.0	10.2	7.3	-174.42	22.6	-121.9	471.8	454.3	17.56	26.868	
2,800.0	2,754.0	2,691.4	2,685.0	10.6	7.6	-174.17	26.1	-134.6	511.0	492.7	18.24	28.011	
2,900.0	2,850.5	2,783.4	2,776.1	11.1	7.9	-173.96	29.6	-147.3	550.1	531.2	18.94	29.051	
3,000.0	2,946.9	2,875.4	2,867.2	11.5	8.2	-173.78	33.1	-160.0	589.2	569.6	19.64	29.997	
3,100.0	3,043.3	2,967.4	2,958.2	12.0	8.5	-173.61	36.6	-172.7	628.4	608.0	20.36	30.861	
3,200.0	3,139.8	3,059.4	3,049.3	12.5	8.8	-173.47	40.1	-185.3	667.5	646.4	21.09	31.649	
3,300.0	3,236.2	3,151.4	3,140.3	12.9	9.1	-173.34	43.6	-198.0	706.7	684.8	21.83	32.372	
3,400.0	3,332.6	3,243.4	3,231.4	13.4	9.4	-173.23	47.1	-210.7	745.8	723.3	22.58	33.034	
3,500.0	3,429.1	3,335.4	3,322.5	13.9	9.7	-173.13	50.6	-223.4	785.0	761.7	23.33	33.644	
3,600.0	3,525.5	3,427.4	3,413.5	14.3	10.1	-173.04	54.1	-236.1	824.1	800.1	24.09	34.205	
3,700.0	3,621.9	3,519.4	3,504.6	14.8	10.4	-172.95	57.6	-248.8	863.3	838.4	24.86	34.723	
3,800.0	3,718.4	3,611.4	3,595.6	15.3	10.7	-172.88	61.1	-261.4	902.5	876.8	25.64	35.203	
3,900.0	3,814.8	3,704.6	3,687.8	15.7	11.1	-172.80	64.6	-274.3	941.6	915.2	26.43	35.628	
4,000.0	3,911.2	3,814.5	3,796.8	16.2	11.7	-172.75	68.5	-288.3	979.8	952.3	27.51	35.623	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 504H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-20.0	20.0	19.5	0.48	41.715		
100.0	100.0	100.0	100.0	1.2	1.2	-90.00	0.0	-20.0	20.0	17.1	2.87	6.976		
200.0	200.0	200.0	200.0	1.7	1.7	-90.00	0.0	-20.0	20.0	16.1	3.86	5.177		
300.0	300.0	300.0	300.0	2.1	2.1	-90.00	0.0	-20.0	20.0	15.4	4.63	4.316		
400.0	400.0	400.0	400.0	2.4	2.4	-90.00	0.0	-20.0	20.0	14.7	5.29	3.783		
500.0	500.0	500.0	500.0	2.7	2.7	-90.00	0.0	-20.0	20.0	14.1	5.87	3.409		
600.0	600.0	600.0	600.0	3.0	3.0	-90.00	0.0	-20.0	20.0	13.6	6.39	3.128		
700.0	700.0	700.0	700.0	3.2	3.2	-90.00	0.0	-20.0	20.0	13.1	6.88	2.906	Normal Operations	
800.0	800.0	800.0	800.0	3.5	3.5	-90.00	0.0	-20.0	20.0	12.7	7.34	2.725	Normal Operations	
900.0	900.0	900.0	900.0	3.7	3.7	-90.00	0.0	-20.0	20.0	12.2	7.77	2.574	Normal Operations	
1,000.0	1,000.0	1,000.0	1,000.0	3.9	3.9	-90.00	0.0	-20.0	20.0	11.8	8.18	2.444	Caution - Monitor Closely, CC, ES, SF	
1,100.0	1,100.0	1,100.0	1,100.0	4.2	4.1	-171.34	0.0	-20.0	21.7	13.0	8.69	2.500	Normal Operations	
1,200.0	1,199.8	1,199.8	1,199.8	4.5	4.3	-173.01	0.0	-20.0	26.9	17.7	9.18	2.930	Normal Operations	
1,300.0	1,299.5	1,299.5	1,299.5	4.9	4.5	-174.70	0.0	-20.0	35.6	25.9	9.69	3.673		
1,400.0	1,398.7	1,398.7	1,398.7	5.2	4.7	-176.03	0.0	-20.0	47.7	37.5	10.20	4.678		
1,500.0	1,497.5	1,497.5	1,497.5	5.5	4.8	-177.00	0.0	-20.0	63.3	52.6	10.73	5.903		
1,600.0	1,595.6	1,595.6	1,595.6	5.9	5.0	-177.68	0.0	-20.0	82.4	71.1	11.27	7.309		
1,700.0	1,693.1	1,693.1	1,693.1	6.3	5.2	-178.16	0.0	-20.0	104.9	93.0	11.83	8.863		
1,767.5	1,758.3	1,758.3	1,758.3	6.5	5.3	-178.41	0.0	-20.0	122.0	109.8	12.15	10.035		
1,800.0	1,789.7	1,789.7	1,789.7	6.6	5.3	-178.51	0.0	-20.0	130.6	118.3	12.29	10.622		
1,900.0	1,886.1	1,891.0	1,891.0	6.9	5.5	-178.69	0.4	-18.6	155.7	142.8	12.89	12.078		
2,000.0	1,982.6	1,994.6	1,994.5	7.3	5.8	-178.65	1.9	-13.7	177.4	163.8	13.52	13.121		
2,100.0	2,079.0	2,099.7	2,099.2	7.7	6.1	-178.45	4.5	-5.0	195.5	181.3	14.17	13.796		
2,200.0	2,175.4	2,206.1	2,204.7	8.1	6.4	-178.11	8.2	7.5	210.1	195.2	14.86	14.140		
2,300.0	2,271.9	2,313.5	2,310.7	8.5	6.7	-177.66	13.1	24.0	221.0	205.4	15.57	14.196		
2,400.0	2,368.3	2,421.5	2,416.7	8.9	7.0	-177.07	19.2	44.4	228.2	211.9	16.29	14.010		
2,500.0	2,464.7	2,526.2	2,518.5	9.3	7.3	-176.38	26.0	67.4	232.1	215.1	16.99	13.662		
2,600.0	2,561.2	2,626.1	2,615.6	9.8	7.6	-175.71	32.7	90.0	235.5	217.7	17.75	13.268		
2,700.0	2,657.6	2,726.0	2,712.7	10.2	7.9	-175.06	39.5	112.5	238.9	220.4	18.52	12.902		
2,800.0	2,754.0	2,825.9	2,809.8	10.6	8.3	-174.44	46.2	135.1	242.3	223.0	19.30	12.557		
2,900.0	2,850.5	2,925.8	2,906.9	11.1	8.6	-173.82	52.9	157.7	245.8	225.7	20.10	12.230		
3,000.0	2,946.9	3,025.7	3,004.0	11.5	9.0	-173.23	59.6	180.2	249.3	228.4	20.91	11.923		
3,100.0	3,043.3	3,125.6	3,101.0	12.0	9.3	-172.65	66.3	202.8	252.8	231.1	21.73	11.634		
3,200.0	3,139.8	3,225.5	3,198.1	12.5	9.7	-172.09	73.1	225.4	256.3	233.8	22.56	11.363		
3,300.0	3,236.2	3,325.4	3,295.2	12.9	10.1	-171.55	79.8	247.9	259.9	236.5	23.40	11.108		
3,400.0	3,332.6	3,425.3	3,392.3	13.4	10.5	-171.01	86.5	270.5	263.5	239.2	24.24	10.870		
3,500.0	3,429.1	3,525.2	3,489.4	13.9	10.9	-170.50	93.2	293.1	267.1	242.0	25.09	10.646		
3,600.0	3,525.5	3,625.1	3,586.5	14.3	11.3	-169.99	99.9	315.6	270.7	244.8	25.94	10.436		
3,700.0	3,621.9	3,725.0	3,683.6	14.8	11.7	-169.50	106.7	338.2	274.4	247.6	26.80	10.238		
3,800.0	3,718.4	3,824.9	3,780.7	15.3	12.1	-169.03	113.4	360.8	278.0	250.4	27.66	10.053		
3,900.0	3,814.8	3,924.8	3,877.8	15.7	12.6	-168.56	120.1	383.3	281.7	253.2	28.52	9.878		
4,000.0	3,911.2	4,024.8	3,974.9	16.2	13.0	-168.11	126.8	405.9	285.4	256.1	29.38	9.714		
4,100.0	4,007.7	4,124.7	4,072.0	16.7	13.4	-167.67	133.5	428.5	289.2	258.9	30.25	9.559		
4,200.0	4,104.1	4,224.6	4,169.1	17.2	13.9	-167.24	140.3	451.0	292.9	261.8	31.12	9.414		
4,300.0	4,200.5	4,324.5	4,266.2	17.7	14.3	-166.82	147.0	473.6	296.7	264.7	31.98	9.276		
4,400.0	4,297.0	4,424.4	4,363.2	18.1	14.8	-166.41	153.7	496.2	300.4	267.6	32.85	9.146		
4,500.0	4,393.4	4,524.3	4,460.3	18.6	15.2	-166.01	160.4	518.7	304.2	270.5	33.72	9.023		
4,600.0	4,489.8	4,624.2	4,557.4	19.1	15.7	-165.62	167.1	541.3	308.0	273.4	34.58	8.907		
4,700.0	4,586.3	4,724.1	4,654.5	19.6	16.1	-165.25	173.9	563.8	311.8	276.4	35.45	8.797		
4,800.0	4,682.7	4,824.0	4,751.6	20.1	16.6	-164.88	180.6	586.4	315.7	279.4	36.32	8.692		
4,900.0	4,779.1	4,923.9	4,848.7	20.6	17.0	-164.51	187.3	609.0	319.5	282.3	37.18	8.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.0	4,875.6	5,023.8	4,945.8	21.0	17.5	-164.16	194.0	631.5	323.4	285.3	38.05	8.499	
5,100.0	4,972.0	5,123.7	5,042.9	21.5	17.9	-163.82	200.7	654.1	327.2	288.3	38.91	8.410	
5,200.0	5,068.4	5,223.6	5,140.0	22.0	18.4	-163.48	207.5	676.7	331.1	291.3	39.77	8.325	
5,300.0	5,164.9	5,323.5	5,237.1	22.5	18.9	-163.15	214.2	699.2	335.0	294.4	40.64	8.244	
5,400.0	5,261.3	5,423.4	5,334.2	23.0	19.3	-162.83	220.9	721.8	338.9	297.4	41.50	8.167	
5,500.0	5,357.7	5,523.3	5,431.3	23.5	19.8	-162.52	227.6	744.4	342.8	300.4	42.36	8.093	
5,600.0	5,454.2	5,623.3	5,528.4	24.0	20.3	-162.21	234.3	766.9	346.7	303.5	43.22	8.023	
5,700.0	5,550.6	5,723.2	5,625.4	24.5	20.7	-161.91	241.1	789.5	350.7	306.6	44.07	7.956	
5,800.0	5,647.0	5,823.1	5,722.5	25.0	21.2	-161.62	247.8	812.1	354.6	309.7	44.93	7.892	
5,900.0	5,743.4	5,923.0	5,819.6	25.5	21.7	-161.34	254.5	834.6	358.5	312.7	45.79	7.831	
6,000.0	5,839.9	6,022.9	5,916.7	25.9	22.1	-161.06	261.2	857.2	362.5	315.9	46.64	7.772	
6,100.0	5,936.3	6,122.8	6,013.8	26.4	22.6	-160.78	267.9	879.8	366.5	319.0	47.49	7.716	
6,200.0	6,032.7	6,222.7	6,110.9	26.9	23.1	-160.51	274.7	902.3	370.4	322.1	48.34	7.662	
6,300.0	6,129.2	6,319.3	6,204.8	27.4	23.5	-160.28	281.1	923.9	374.7	325.5	49.17	7.620	
6,400.0	6,225.6	6,413.6	6,296.9	27.9	24.0	-160.15	286.9	943.6	380.3	330.3	50.01	7.604	
6,500.0	6,322.0	6,507.7	6,389.1	28.4	24.4	-160.13	292.4	961.8	387.3	336.5	50.85	7.617	
6,600.0	6,418.5	6,600.0	6,479.7	28.9	24.8	-160.22	297.3	978.3	395.9	344.2	51.69	7.659	
6,700.0	6,514.9	6,695.3	6,573.6	29.4	25.2	-160.40	301.9	993.8	405.9	353.3	52.57	7.721	
6,800.0	6,611.3	6,788.6	6,665.8	29.9	25.6	-160.66	306.0	1,007.5	417.3	363.9	53.43	7.811	
6,900.0	6,707.8	6,881.5	6,757.9	30.4	26.0	-161.00	309.6	1,019.8	430.2	375.9	54.29	7.924	
7,000.0	6,804.2	6,974.1	6,849.7	30.9	26.4	-161.40	312.8	1,030.5	444.6	389.4	55.15	8.061	
7,100.0	6,900.6	7,066.2	6,941.3	31.4	26.8	-161.85	315.6	1,039.9	460.4	404.4	56.00	8.222	
7,200.0	6,997.1	7,157.8	7,032.5	31.9	27.1	-162.35	317.9	1,047.7	477.7	420.9	56.83	8.405	
7,300.0	7,093.5	7,248.8	7,123.3	32.4	27.5	-162.89	319.9	1,054.1	496.5	438.8	57.65	8.612	
7,400.0	7,189.9	7,339.3	7,213.7	32.9	27.8	-163.45	321.4	1,059.2	516.7	458.2	58.44	8.841	
7,500.0	7,286.4	7,429.1	7,303.4	33.4	28.1	-164.03	322.4	1,062.8	538.4	479.2	59.21	9.093	
7,600.0	7,382.8	7,518.3	7,392.6	33.9	28.3	-164.61	323.1	1,065.1	561.6	501.6	59.94	9.369	
7,700.0	7,479.2	7,606.8	7,481.0	34.4	28.5	-165.20	323.4	1,066.0	586.2	525.6	60.60	9.672	
7,800.0	7,575.7	7,701.4	7,575.7	34.9	28.6	-165.82	323.4	1,066.0	611.8	550.6	61.27	9.986	
7,900.0	7,672.1	7,797.8	7,672.1	35.4	28.6	-166.40	323.4	1,066.0	637.6	575.6	61.95	10.292	
8,000.0	7,768.5	7,894.3	7,768.5	35.9	28.6	-166.94	323.4	1,066.0	663.4	600.8	62.63	10.592	
8,100.0	7,865.0	7,990.7	7,865.0	36.4	28.7	-167.44	323.4	1,066.0	689.2	625.9	63.30	10.889	
8,119.1	7,883.4	8,009.1	7,883.4	36.4	28.7	-167.53	323.4	1,066.0	694.2	630.8	63.42	10.946	
8,200.0	7,961.6	8,087.3	7,961.6	36.8	28.7	-167.93	323.4	1,066.0	714.6	650.7	63.95	11.174	
8,300.0	8,058.6	8,184.3	8,058.6	37.3	28.7	-168.38	323.4	1,066.0	738.4	673.8	64.59	11.431	
8,400.0	8,156.0	8,281.7	8,156.0	37.8	28.8	-168.76	323.4	1,066.0	760.5	695.3	65.22	11.661	
8,500.0	8,253.8	8,379.5	8,253.8	38.3	28.8	-169.10	323.4	1,066.0	781.0	715.2	65.83	11.864	
8,600.0	8,351.9	8,477.7	8,351.9	38.8	28.8	-169.39	323.4	1,066.0	799.8	733.4	66.42	12.041	
8,700.0	8,450.4	8,576.1	8,450.4	39.2	28.9	-169.65	323.4	1,066.0	817.0	750.0	67.00	12.193	
8,800.0	8,549.2	8,674.9	8,549.2	39.7	28.9	-169.87	323.4	1,066.0	832.4	764.9	67.57	12.321	
8,900.0	8,648.2	8,773.9	8,648.2	40.1	28.9	-170.06	323.4	1,066.0	846.2	778.1	68.11	12.424	
9,000.0	8,747.4	8,873.2	8,747.4	40.5	29.0	-170.22	323.4	1,066.0	858.3	789.7	68.64	12.504	
9,100.0	8,846.9	8,972.6	8,846.9	40.9	29.0	-170.36	323.4	1,066.0	868.7	799.5	69.15	12.562	
9,200.0	8,946.5	9,072.2	8,946.5	41.3	29.1	-170.47	323.4	1,066.0	877.3	807.7	69.64	12.599	
9,300.0	9,046.2	9,172.0	9,046.2	41.7	29.1	-170.56	323.4	1,066.0	884.3	814.2	70.10	12.615	
9,400.0	9,146.1	9,271.8	9,146.1	42.0	29.1	-170.62	323.4	1,066.0	889.5	819.0	70.53	12.612	
9,500.0	9,246.0	9,371.8	9,246.0	42.3	29.2	-170.66	323.4	1,066.0	893.0	822.1	70.92	12.592	
9,600.0	9,346.0	9,471.7	9,346.0	42.6	29.2	-170.69	323.4	1,066.0	894.8	823.6	71.25	12.558	
9,654.0	9,400.0	9,525.4	9,399.6	42.7	29.2	-90.05	324.2	1,066.0	895.1	823.7	71.33	12.549	
9,700.0	9,446.0	9,570.3	9,444.3	42.7	29.3	-89.75	328.8	1,066.0	895.1	823.9	71.26	12.561	
9,800.0	9,546.0	9,662.8	9,533.9	42.7	29.4	-88.30	351.5	1,065.8	895.8	824.9	70.84	12.645	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,900.0	9,646.0	9,744.2	9,607.7	42.7	29.6	-86.14	385.3	1,065.5	898.4	828.5	69.93	12.848	
10,000.0	9,746.0	9,812.4	9,664.5	42.7	29.7	-83.75	423.1	1,065.2	904.9	836.4	68.51	13.209	
10,076.5	9,822.5	9,856.2	9,697.9	42.7	29.8	-81.96	451.4	1,065.0	913.5	846.4	67.11	13.613	
10,100.0	9,846.0	9,868.7	9,706.9	42.8	29.8	-80.83	460.0	1,064.9	916.8	850.2	66.63	13.759	
10,125.0	9,870.9	9,881.8	9,716.2	42.8	29.8	-79.85	469.4	1,064.8	920.5	854.4	66.13	13.921	
10,150.0	9,895.7	9,895.0	9,725.2	42.8	29.8	-78.87	479.0	1,064.8	924.4	858.8	65.62	14.087	
10,175.0	9,920.3	9,908.1	9,733.9	42.8	29.9	-77.90	488.8	1,064.7	928.4	863.3	65.12	14.256	
10,200.0	9,944.6	9,925.0	9,744.7	42.8	29.9	-76.80	501.8	1,064.6	932.5	867.9	64.63	14.428	
10,225.0	9,968.6	9,934.3	9,750.4	42.9	29.9	-75.99	509.0	1,064.5	936.6	872.5	64.15	14.601	
10,250.0	9,992.2	9,950.0	9,759.8	42.9	29.9	-74.97	521.6	1,064.4	940.9	877.2	63.68	14.775	
10,275.0	10,015.3	9,960.4	9,765.8	42.9	29.9	-74.15	530.1	1,064.3	945.1	881.9	63.23	14.947	
10,300.0	10,037.9	9,975.0	9,773.9	42.9	30.0	-73.21	542.3	1,064.2	949.3	886.6	62.79	15.119	
10,325.0	10,059.9	9,986.4	9,779.9	43.0	30.0	-72.40	551.9	1,064.2	953.6	891.2	62.38	15.287	
10,350.0	10,081.3	10,000.0	9,786.9	43.0	30.0	-71.54	563.7	1,064.1	957.7	895.7	61.98	15.453	
10,375.0	10,101.9	10,012.3	9,792.9	43.0	30.0	-70.76	574.4	1,064.0	961.8	900.2	61.60	15.613	
10,400.0	10,121.8	10,025.0	9,798.7	43.1	30.0	-70.00	585.7	1,063.9	965.8	904.5	61.25	15.769	
10,425.0	10,140.9	10,038.2	9,804.5	43.1	30.1	-69.26	597.6	1,063.8	969.7	908.7	60.91	15.919	
10,450.0	10,159.1	10,050.0	9,809.4	43.1	30.1	-68.59	608.3	1,063.7	973.4	912.8	60.61	16.061	
10,475.0	10,176.3	10,064.1	9,814.9	43.1	30.1	-67.91	621.2	1,063.6	977.0	916.7	60.31	16.198	
10,500.0	10,192.6	10,075.0	9,818.9	43.2	30.1	-67.33	631.4	1,063.5	980.4	920.3	60.07	16.322	
10,525.0	10,207.9	10,089.9	9,824.0	43.2	30.1	-66.72	645.4	1,063.4	983.6	923.8	59.81	16.444	
10,550.0	10,222.1	10,100.0	9,827.1	43.2	30.1	-66.23	655.0	1,063.3	986.6	927.0	59.62	16.548	
10,575.0	10,235.2	10,115.7	9,831.7	43.3	30.1	-65.70	670.0	1,063.2	989.4	930.0	59.42	16.653	
10,600.0	10,247.2	10,125.0	9,834.1	43.3	30.2	-65.30	679.0	1,063.1	992.0	932.8	59.29	16.732	
10,625.0	10,258.1	10,141.5	9,838.1	43.3	30.2	-64.87	695.0	1,063.0	994.4	935.3	59.12	16.819	
10,650.0	10,267.7	10,150.0	9,839.9	43.3	30.2	-64.55	703.3	1,062.9	996.5	937.4	59.06	16.873	
10,675.0	10,276.1	10,167.3	9,843.1	43.4	30.2	-64.21	720.3	1,062.8	998.3	939.4	58.94	16.939	
10,700.0	10,283.3	10,175.0	9,844.4	43.4	30.2	-63.98	727.9	1,062.7	999.9	941.0	58.94	16.965	
12,800.0	10,300.0	12,323.4	9,850.0	49.3	35.6	-63.06	2,875.3	1,065.9	998.5	935.9	62.60	15.949	
12,900.0	10,300.0	12,466.7	9,850.0	49.7	36.2	-62.53	3,017.2	1,085.5	986.0	923.2	62.80	15.701	
13,000.0	10,300.0	12,573.1	9,850.0	50.2	36.6	-62.01	3,122.0	1,103.7	970.4	907.2	63.14	15.368	
13,100.0	10,300.0	12,651.6	9,850.0	50.8	37.0	-61.65	3,199.5	1,116.3	955.9	892.2	63.70	15.006	
13,200.0	10,300.0	12,728.2	9,850.0	51.3	37.3	-61.34	3,275.5	1,126.5	943.8	879.5	64.31	14.676	
13,300.0	10,300.0	12,800.0	9,850.0	51.8	37.7	-61.11	3,346.8	1,134.2	934.2	869.2	64.96	14.380	
13,400.0	10,300.0	12,883.0	9,850.0	52.4	38.1	-60.89	3,429.6	1,140.9	926.8	861.2	65.64	14.120	
13,500.0	10,300.0	12,960.9	9,850.0	53.0	38.5	-60.76	3,507.4	1,145.0	921.9	855.5	66.36	13.892	
13,600.0	10,300.0	13,039.0	9,850.0	53.5	38.9	-60.69	3,585.4	1,147.0	919.3	852.2	67.13	13.695	
13,700.0	10,300.0	13,127.5	9,850.0	54.1	39.3	-60.68	3,674.0	1,147.1	918.9	850.9	67.99	13.516	
13,800.0	10,300.0	13,227.5	9,850.0	54.8	39.8	-60.67	3,774.0	1,146.9	918.7	849.8	68.94	13.327	
13,900.0	10,300.0	13,327.5	9,850.0	55.4	40.4	-60.67	3,874.0	1,146.6	918.6	848.7	69.91	13.139	
14,000.0	10,300.0	13,427.5	9,850.0	56.0	40.9	-60.67	3,974.0	1,146.4	918.5	847.6	70.92	12.951	
14,100.0	10,300.0	13,527.5	9,850.0	56.6	41.5	-60.66	4,074.0	1,146.2	918.3	846.4	71.95	12.764	
14,200.0	10,300.0	13,627.5	9,850.0	57.3	42.0	-60.66	4,174.0	1,145.9	918.2	845.2	73.00	12.578	
14,300.0	10,300.0	13,727.5	9,850.0	57.9	42.6	-60.65	4,274.0	1,145.7	918.1	844.0	74.08	12.393	
14,400.0	10,300.0	13,827.5	9,850.0	58.6	43.1	-60.65	4,374.0	1,145.5	918.0	842.8	75.18	12.210	
14,500.0	10,300.0	13,927.5	9,850.0	59.3	43.7	-60.64	4,474.0	1,145.2	917.8	841.5	76.30	12.029	
14,600.0	10,300.0	14,027.5	9,850.0	60.0	44.3	-60.64	4,574.0	1,145.0	917.7	840.3	77.45	11.850	
14,700.0	10,300.0	14,127.5	9,850.0	60.7	44.9	-60.63	4,674.0	1,144.8	917.6	839.0	78.61	11.673	
14,800.0	10,300.0	14,227.5	9,850.0	61.4	45.5	-60.63	4,774.0	1,144.5	917.4	837.7	79.79	11.499	
14,900.0	10,300.0	14,327.5	9,850.0	62.1	46.1	-60.62	4,874.0	1,144.3	917.3	836.3	80.98	11.327	
15,000.0	10,300.0	14,427.5	9,850.0	62.8	46.7	-60.62	4,974.0	1,144.0	917.2	835.0	82.20	11.158	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,100.0	10,300.0	14,527.5	9,850.0	63.5	47.3	-60.62	5,074.0	1,143.8	917.1	833.6	83.43	10.992	
15,200.0	10,300.0	14,627.5	9,850.0	64.2	47.9	-60.61	5,174.0	1,143.6	916.9	832.3	84.68	10.829	
15,300.0	10,300.0	14,727.5	9,850.0	65.0	48.5	-60.61	5,274.0	1,143.3	916.8	830.9	85.94	10.668	
15,400.0	10,300.0	14,827.5	9,850.0	65.7	49.1	-60.60	5,374.0	1,143.1	916.7	829.5	87.21	10.511	
15,500.0	10,300.0	14,927.5	9,850.0	66.5	49.8	-60.60	5,474.0	1,142.9	916.5	828.0	88.50	10.356	
15,600.0	10,300.0	15,027.5	9,850.0	67.2	50.4	-60.59	5,574.0	1,142.6	916.4	826.6	89.80	10.205	
15,700.0	10,300.0	15,127.5	9,850.0	68.0	51.0	-60.59	5,674.0	1,142.4	916.3	825.2	91.12	10.056	
15,800.0	10,300.0	15,227.5	9,850.0	68.7	51.7	-60.58	5,774.0	1,142.2	916.2	823.7	92.44	9.910	
15,900.0	10,300.0	15,327.5	9,850.0	69.5	52.3	-60.58	5,874.0	1,141.9	916.0	822.2	93.78	9.768	
16,000.0	10,300.0	15,427.5	9,850.0	70.3	52.9	-60.57	5,974.0	1,141.7	915.9	820.8	95.13	9.628	
16,100.0	10,300.0	15,527.5	9,850.0	71.1	53.6	-60.57	6,074.0	1,141.5	915.8	819.3	96.49	9.491	
16,200.0	10,300.0	15,627.5	9,850.0	71.8	54.2	-60.57	6,174.0	1,141.2	915.6	817.8	97.86	9.357	
16,300.0	10,300.0	15,727.5	9,850.0	72.6	54.9	-60.56	6,274.0	1,141.0	915.5	816.3	99.24	9.226	
16,400.0	10,300.0	15,827.5	9,850.0	73.4	55.6	-60.56	6,374.0	1,140.8	915.4	814.8	100.62	9.097	
16,500.0	10,300.0	15,927.5	9,850.0	74.2	56.2	-60.55	6,474.0	1,140.5	915.3	813.2	102.02	8.971	
16,600.0	10,300.0	16,027.5	9,850.0	75.0	56.9	-60.55	6,574.0	1,140.3	915.1	811.7	103.43	8.848	
16,700.0	10,300.0	16,127.5	9,850.0	75.8	57.5	-60.54	6,674.0	1,140.0	915.0	810.2	104.84	8.728	
16,800.0	10,300.0	16,227.5	9,850.0	76.6	58.2	-60.54	6,774.0	1,139.8	914.9	808.6	106.26	8.610	
16,900.0	10,300.0	16,327.5	9,850.0	77.4	58.9	-60.53	6,874.0	1,139.6	914.7	807.1	107.69	8.494	
17,000.0	10,300.0	16,427.5	9,850.0	78.3	59.6	-60.53	6,974.0	1,139.3	914.6	805.5	109.12	8.381	
17,100.0	10,300.0	16,527.5	9,850.0	79.1	60.2	-60.52	7,074.0	1,139.1	914.5	803.9	110.57	8.271	
17,200.0	10,300.0	16,627.5	9,850.0	79.9	60.9	-60.52	7,174.0	1,138.9	914.4	802.3	112.02	8.163	
17,300.0	10,300.0	16,727.5	9,850.0	80.7	61.6	-60.51	7,274.0	1,138.6	914.2	800.8	113.47	8.057	
17,400.0	10,300.0	16,827.5	9,850.0	81.6	62.3	-60.51	7,374.0	1,138.4	914.1	799.2	114.93	7.953	
17,500.0	10,300.0	16,927.5	9,850.0	82.4	63.0	-60.51	7,474.0	1,138.2	914.0	797.6	116.40	7.852	
17,600.0	10,300.0	17,027.5	9,850.0	83.2	63.6	-60.50	7,574.0	1,137.9	913.8	796.0	117.87	7.753	
17,700.0	10,300.0	17,127.5	9,850.0	84.1	64.3	-60.50	7,674.0	1,137.7	913.7	794.4	119.35	7.656	
17,800.0	10,300.0	17,227.5	9,850.0	84.9	65.0	-60.49	7,774.0	1,137.5	913.6	792.7	120.84	7.561	
17,900.0	10,300.0	17,327.5	9,850.0	85.8	65.7	-60.49	7,874.0	1,137.2	913.5	791.1	122.33	7.467	
18,000.0	10,300.0	17,427.5	9,850.0	86.6	66.4	-60.48	7,974.0	1,137.0	913.3	789.5	123.82	7.376	
18,100.0	10,300.0	17,527.5	9,850.0	87.5	67.1	-60.48	8,074.0	1,136.8	913.2	787.9	125.32	7.287	
18,200.0	10,300.0	17,627.5	9,850.0	88.3	67.8	-60.47	8,174.0	1,136.5	913.1	786.2	126.82	7.200	
18,300.0	10,300.0	17,727.5	9,850.0	89.2	68.5	-60.47	8,274.0	1,136.3	912.9	784.6	128.33	7.114	
18,400.0	10,300.0	17,827.5	9,850.0	90.0	69.2	-60.46	8,374.0	1,136.0	912.8	783.0	129.84	7.030	
18,500.0	10,300.0	17,927.5	9,850.0	90.9	69.9	-60.46	8,474.0	1,135.8	912.7	781.3	131.36	6.948	
18,600.0	10,300.0	18,027.5	9,850.0	91.7	70.6	-60.46	8,574.0	1,135.6	912.6	779.7	132.88	6.868	
18,700.0	10,300.0	18,127.5	9,850.0	92.6	71.3	-60.45	8,673.9	1,135.3	912.4	778.0	134.40	6.789	
18,800.0	10,300.0	18,227.5	9,850.0	93.5	72.0	-60.45	8,773.9	1,135.1	912.3	776.4	135.93	6.712	
18,900.0	10,300.0	18,327.5	9,850.0	94.3	72.7	-60.44	8,873.9	1,134.9	912.2	774.7	137.46	6.636	
19,000.0	10,300.0	18,427.5	9,850.0	95.2	73.4	-60.44	8,973.9	1,134.6	912.0	773.1	138.99	6.562	
19,100.0	10,300.0	18,527.5	9,850.0	96.1	74.1	-60.43	9,073.9	1,134.4	911.9	771.4	140.53	6.489	
19,200.0	10,300.0	18,627.5	9,850.0	97.0	74.8	-60.43	9,173.9	1,134.2	911.8	769.7	142.07	6.418	
19,300.0	10,300.0	18,727.5	9,850.0	97.8	75.5	-60.42	9,273.9	1,133.9	911.7	768.0	143.61	6.348	
19,400.0	10,300.0	18,827.5	9,850.0	98.7	76.2	-60.42	9,373.9	1,133.7	911.5	766.4	145.16	6.280	
19,500.0	10,300.0	18,927.5	9,850.0	99.6	77.0	-60.41	9,473.9	1,133.5	911.4	764.7	146.71	6.212	
19,600.0	10,300.0	19,027.5	9,850.0	100.5	77.7	-60.41	9,573.9	1,133.2	911.3	763.0	148.26	6.146	
19,700.0	10,300.0	19,127.5	9,850.0	101.3	78.4	-60.40	9,673.9	1,133.0	911.1	761.3	149.82	6.082	
19,800.0	10,300.0	19,227.5	9,850.0	102.2	79.1	-60.40	9,773.9	1,132.8	911.0	759.6	151.37	6.018	
19,900.0	10,300.0	19,327.5	9,850.0	103.1	79.8	-60.40	9,873.9	1,132.5	910.9	758.0	152.93	5.956	
20,000.0	10,300.0	19,427.5	9,850.0	104.0	80.5	-60.39	9,973.9	1,132.3	910.8	756.3	154.50	5.895	
20,100.0	10,300.0	19,527.5	9,850.0	104.9	81.3	-60.39	10,073.9	1,132.0	910.6	754.6	156.06	5.835	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,200.0	10,300.0	19,627.5	9,850.0	105.8	82.0	-60.38	10,173.9	1,131.8	910.5	752.9	157.63	5.776	
20,300.0	10,300.0	19,727.5	9,850.0	106.7	82.7	-60.38	10,273.9	1,131.6	910.4	751.2	159.20	5.718	
20,400.0	10,300.0	19,827.5	9,850.0	107.6	83.4	-60.37	10,373.9	1,131.3	910.2	749.5	160.77	5.662	
20,500.0	10,300.0	19,927.5	9,850.0	108.5	84.1	-60.37	10,473.9	1,131.1	910.1	747.8	162.35	5.606	
20,600.0	10,300.0	20,027.5	9,850.0	109.4	84.9	-60.36	10,573.9	1,130.9	910.0	746.1	163.92	5.551	
20,700.0	10,300.0	20,127.5	9,850.0	110.2	85.6	-60.36	10,673.9	1,130.6	909.9	744.4	165.50	5.498	
20,800.0	10,300.0	20,227.5	9,850.0	111.1	86.3	-60.35	10,773.9	1,130.4	909.7	742.6	167.08	5.445	
20,900.0	10,300.0	20,327.5	9,850.0	112.0	87.0	-60.35	10,873.9	1,130.2	909.6	740.9	168.66	5.393	
21,000.0	10,300.0	20,427.5	9,850.0	112.9	87.7	-60.34	10,973.9	1,129.9	909.5	739.2	170.25	5.342	
21,100.0	10,300.0	20,527.5	9,850.0	113.8	88.5	-60.34	11,073.9	1,129.7	909.3	737.5	171.83	5.292	
21,200.0	10,300.0	20,627.5	9,850.0	114.7	89.2	-60.34	11,173.9	1,129.5	909.2	735.8	173.42	5.243	
21,300.0	10,300.0	20,727.5	9,850.0	115.6	89.9	-60.33	11,273.9	1,129.2	909.1	734.1	175.01	5.195	
21,400.0	10,300.0	20,827.5	9,850.0	116.6	90.7	-60.33	11,373.9	1,129.0	909.0	732.4	176.60	5.147	
21,500.0	10,300.0	20,927.5	9,850.0	117.5	91.4	-60.32	11,473.9	1,128.8	908.8	730.6	178.19	5.100	
21,600.0	10,300.0	21,027.5	9,850.0	118.4	92.1	-60.32	11,573.9	1,128.5	908.7	728.9	179.79	5.054	
21,700.0	10,300.0	21,127.5	9,850.0	119.3	92.8	-60.31	11,673.9	1,128.3	908.6	727.2	181.38	5.009	
21,800.0	10,300.0	21,227.5	9,850.0	120.2	93.6	-60.31	11,773.9	1,128.0	908.4	725.5	182.98	4.965	
21,900.0	10,300.0	21,327.5	9,850.0	121.1	94.3	-60.30	11,873.9	1,127.8	908.3	723.7	184.58	4.921	
22,000.0	10,300.0	21,427.5	9,850.0	122.0	95.0	-60.30	11,973.9	1,127.6	908.2	722.0	186.18	4.878	
22,100.0	10,300.0	21,527.5	9,850.0	122.9	95.8	-60.29	12,073.9	1,127.3	908.1	720.3	187.78	4.836	
22,200.0	10,300.0	21,627.5	9,850.0	123.8	96.5	-60.29	12,173.9	1,127.1	907.9	718.6	189.38	4.794	
22,300.0	10,300.0	21,727.5	9,850.0	124.7	97.2	-60.28	12,273.9	1,126.9	907.8	716.8	190.98	4.753	
22,400.0	10,300.0	21,827.5	9,850.0	125.6	98.0	-60.28	12,373.9	1,126.6	907.7	715.1	192.59	4.713	
22,500.0	10,300.0	21,927.5	9,850.0	126.6	98.7	-60.27	12,473.9	1,126.4	907.5	713.4	194.20	4.673	
22,600.0	10,300.0	22,027.5	9,850.0	127.5	99.4	-60.27	12,573.9	1,126.2	907.4	711.6	195.80	4.634	
22,700.0	10,300.0	22,127.5	9,850.0	128.4	100.2	-60.27	12,673.9	1,125.9	907.3	709.9	197.41	4.596	
22,800.0	10,300.0	22,227.5	9,850.0	129.3	100.9	-60.26	12,773.9	1,125.7	907.2	708.1	199.02	4.558	
22,900.0	10,300.0	22,327.5	9,850.0	130.2	101.6	-60.26	12,873.9	1,125.5	907.0	706.4	200.63	4.521	
23,000.0	10,300.0	22,427.5	9,850.0	131.1	102.4	-60.25	12,973.9	1,125.2	906.9	704.7	202.24	4.484	
23,100.0	10,300.0	22,527.5	9,850.0	132.1	103.1	-60.25	13,073.9	1,125.0	906.8	702.9	203.86	4.448	
23,200.0	10,300.0	22,627.5	9,850.0	133.0	103.8	-60.24	13,173.9	1,124.8	906.7	701.2	205.47	4.413	
23,300.0	10,300.0	22,727.5	9,850.0	133.9	104.6	-60.24	13,273.9	1,124.5	906.5	699.4	207.09	4.378	
23,400.0	10,300.0	22,827.5	9,850.0	134.8	105.3	-60.23	13,373.9	1,124.3	906.4	697.7	208.70	4.343	
23,407.2	10,300.0	22,834.8	9,850.0	134.9	105.4	-60.23	13,381.2	1,124.3	906.4	697.6	208.82	4.341	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - _THUNDERDOME FED COM 522H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-60.0	60.0	59.5	0.48	125.145		
100.0	100.0	100.0	100.0	1.2	1.2	-90.00	0.0	-60.0	60.0	57.1	2.87	20.929		
200.0	200.0	200.0	200.0	1.7	1.7	-90.00	0.0	-60.0	60.0	56.1	3.86	15.530		
300.0	300.0	300.0	300.0	2.1	2.1	-90.00	0.0	-60.0	60.0	55.4	4.63	12.949		
400.0	400.0	400.0	400.0	2.4	2.4	-90.00	0.0	-60.0	60.0	54.7	5.29	11.349		
500.0	500.0	500.0	500.0	2.7	2.7	-90.00	0.0	-60.0	60.0	54.1	5.87	10.228		
600.0	600.0	600.0	600.0	3.0	3.0	-90.00	0.0	-60.0	60.0	53.6	6.39	9.384		
700.0	700.0	700.0	700.0	3.2	3.2	-90.00	0.0	-60.0	60.0	53.1	6.88	8.719		
800.0	800.0	800.0	800.0	3.5	3.5	-90.00	0.0	-60.0	60.0	52.7	7.34	8.176		
900.0	900.0	900.0	900.0	3.7	3.7	-90.00	0.0	-60.0	60.0	52.2	7.77	7.721		
1,000.0	1,000.0	1,000.0	1,000.0	3.9	3.9	-90.00	0.0	-60.0	60.0	51.8	8.18	7.333 CC, ES		
1,100.0	1,100.0	1,099.0	1,099.0	4.2	4.2	-169.43	1.5	-60.8	62.5	53.8	8.71	7.177 SF		
1,200.0	1,199.8	1,197.6	1,197.4	4.5	4.5	-166.46	6.1	-63.0	70.1	60.9	9.22	7.599		
1,300.0	1,299.5	1,295.2	1,294.7	4.9	4.9	-162.72	13.7	-66.7	83.0	73.3	9.75	8.517		
1,400.0	1,398.7	1,391.5	1,390.3	5.2	5.2	-159.09	24.0	-71.7	101.5	91.2	10.29	9.864		
1,500.0	1,497.5	1,486.1	1,483.8	5.5	5.5	-155.97	37.0	-78.1	125.4	114.6	10.84	11.569		
1,600.0	1,595.6	1,581.3	1,577.6	5.9	5.8	-153.68	51.8	-85.4	153.9	142.6	11.38	13.524		
1,700.0	1,693.1	1,676.2	1,670.9	6.3	6.1	-152.48	66.7	-92.6	185.6	173.7	11.94	15.539		
1,767.5	1,758.3	1,739.6	1,733.4	6.5	6.3	-152.07	76.6	-97.5	208.6	196.4	12.28	16.988		
1,800.0	1,789.7	1,770.0	1,763.4	6.6	6.4	-152.04	81.4	-99.8	220.1	207.6	12.43	17.702		
1,900.0	1,886.1	1,863.7	1,855.6	6.9	6.7	-151.98	96.0	-107.0	255.2	242.2	12.98	19.666		
2,000.0	1,982.6	1,957.3	1,947.8	7.3	7.1	-151.94	110.7	-114.2	290.3	276.7	13.54	21.437		
2,100.0	2,079.0	2,050.9	2,040.0	7.7	7.4	-151.90	125.4	-121.3	325.4	311.3	14.13	23.035		
2,200.0	2,175.4	2,144.6	2,132.2	8.1	7.7	-151.87	140.0	-128.5	360.5	345.8	14.73	24.477		
2,300.0	2,271.9	2,238.2	2,224.4	8.5	8.1	-151.85	154.7	-135.7	395.6	380.3	15.34	25.781		
2,400.0	2,368.3	2,331.8	2,316.6	8.9	8.5	-151.83	169.3	-142.8	430.7	414.7	15.97	26.963		
2,500.0	2,464.7	2,425.5	2,408.8	9.3	8.8	-151.81	184.0	-150.0	465.8	449.2	16.62	28.035		
2,600.0	2,561.2	2,519.1	2,501.0	9.8	9.2	-151.80	198.7	-157.2	500.9	483.7	17.27	29.011		
2,700.0	2,657.6	2,612.7	2,593.2	10.2	9.6	-151.78	213.3	-164.4	536.0	518.1	17.93	29.900		
2,800.0	2,754.0	2,706.4	2,685.4	10.6	9.9	-151.77	228.0	-171.5	571.2	552.6	18.60	30.713		
2,900.0	2,850.5	2,800.0	2,777.6	11.1	10.3	-151.76	242.6	-178.7	606.3	587.0	19.27	31.457		
3,000.0	2,946.9	2,893.6	2,869.8	11.5	10.7	-151.75	257.3	-185.9	641.4	621.4	19.96	32.140		
3,100.0	3,043.3	2,987.3	2,962.0	12.0	11.1	-151.74	272.0	-193.1	676.5	655.8	20.64	32.769		
3,200.0	3,139.8	3,080.9	3,054.2	12.5	11.5	-151.74	286.6	-200.2	711.6	690.3	21.34	33.349		
3,300.0	3,236.2	3,174.5	3,146.4	12.9	11.9	-151.73	301.3	-207.4	746.7	724.7	22.04	33.885		
3,400.0	3,332.6	3,268.2	3,238.6	13.4	12.3	-151.73	315.9	-214.6	781.8	759.1	22.74	34.382		
3,500.0	3,429.1	3,361.8	3,330.8	13.9	12.7	-151.72	330.6	-221.7	816.9	793.5	23.45	34.843		
3,600.0	3,525.5	3,455.4	3,423.0	14.3	13.1	-151.71	345.3	-228.9	852.0	827.9	24.16	35.272		
3,700.0	3,621.9	3,549.1	3,515.2	14.8	13.5	-151.71	359.9	-236.1	887.1	862.3	24.87	35.671		
3,800.0	3,718.4	3,642.7	3,607.4	15.3	13.9	-151.71	374.6	-243.3	922.3	896.7	25.59	36.044		
3,900.0	3,814.8	3,736.3	3,699.6	15.7	14.3	-151.70	389.3	-250.4	957.4	931.1	26.31	36.393		
4,000.0	3,911.2	3,830.0	3,791.8	16.2	14.7	-151.70	403.9	-257.6	992.5	965.4	27.03	36.720		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - FORTY NINER RIDGE 23 FEDERAL 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 99-r.5 MWD												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		No-Go	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	
9,100.0	8,846.9	12,136.7	9,825.9	40.9	41.7	-174.21	323.2	1,825.8	985.1	936.1	48.97	20.118	
9,200.0	8,946.5	12,137.1	9,825.9	41.3	41.7	-173.61	323.5	1,825.8	887.3	837.5	49.81	17.814	
9,300.0	9,046.2	12,137.1	9,825.9	41.7	41.7	-173.06	323.6	1,825.8	789.6	738.8	50.78	15.549	
9,400.0	9,146.1	12,136.9	9,825.9	42.0	41.7	-172.58	323.4	1,825.8	692.1	640.2	51.95	13.324	
9,500.0	9,246.0	12,136.5	9,825.9	42.3	41.7	-172.21	322.9	1,825.8	595.0	541.6	53.40	11.144	
9,600.0	9,346.0	12,135.8	9,825.9	42.6	41.7	-171.97	322.2	1,825.8	498.6	443.3	55.30	9.016	
9,654.0	9,400.0	12,135.4	9,825.9	42.7	41.7	-91.32	321.8	1,825.9	446.9	390.3	56.60	7.896	
9,700.0	9,446.0	12,135.0	9,825.9	42.7	41.7	-91.49	321.4	1,825.9	403.3	345.4	57.94	6.960	
9,800.0	9,546.0	12,134.1	9,826.0	42.7	41.7	-91.84	320.6	1,825.9	310.9	248.7	62.18	5.000	
9,900.0	9,646.0	12,133.3	9,826.0	42.7	41.7	-92.18	319.8	1,826.0	225.1	155.6	69.53	3.238	
10,000.0	9,746.0	12,132.6	9,826.0	42.7	41.6	-92.51	319.0	1,826.0	157.1	76.3	80.77	1.945	Caution - Monitor Closely
10,076.5	9,822.5	12,132.0	9,826.0	42.7	41.6	-92.74	318.4	1,826.0	135.3	51.7	83.58	1.618	Caution - Monitor Closely, ES, SF
10,079.8	9,825.8	12,132.0	9,826.0	42.7	41.6	-92.54	318.4	1,826.0	135.2	51.9	83.34	1.622	Caution - Monitor Closely, CC
10,100.0	9,846.0	12,132.5	9,826.0	42.8	41.6	-92.16	318.9	1,826.0	136.7	55.5	81.19	1.684	Caution - Monitor Closely
10,125.0	9,870.9	12,134.2	9,826.0	42.8	41.7	-90.67	320.7	1,825.9	142.6	65.4	77.25	1.846	Caution - Monitor Closely
10,150.0	9,895.7	12,137.3	9,825.9	42.8	41.7	-88.13	323.7	1,825.8	152.4	79.7	72.66	2.097	Caution - Monitor Closely
10,175.0	9,920.3	12,141.6	9,825.9	42.8	41.8	-84.53	328.0	1,825.6	165.3	97.1	68.15	2.425	Caution - Monitor Closely
10,200.0	9,944.6	12,147.2	9,825.8	42.8	41.9	-79.99	333.6	1,825.3	180.5	116.3	64.17	2.813	Normal Operations
10,225.0	9,968.6	12,154.1	9,825.8	42.9	42.0	-74.70	340.5	1,825.0	197.4	136.5	60.87	3.242	
10,250.0	9,992.2	12,162.1	9,825.7	42.9	42.1	-68.91	348.5	1,824.7	215.3	157.1	58.24	3.697	
10,275.0	10,015.3	12,171.4	9,825.6	42.9	42.3	-62.90	357.8	1,824.3	234.0	177.8	56.19	4.164	
10,300.0	10,037.9	12,181.8	9,825.5	42.9	42.4	-56.98	368.1	1,823.9	252.9	198.3	54.61	4.632	
10,325.0	10,059.9	12,193.3	9,825.3	43.0	42.6	-51.39	379.6	1,823.4	272.0	218.6	53.41	5.094	
10,350.0	10,081.3	12,205.7	9,825.1	43.0	42.8	-46.32	392.1	1,823.0	291.0	238.5	52.50	5.543	
10,375.0	10,101.9	12,219.1	9,824.9	43.0	43.0	-41.81	405.5	1,822.5	309.8	257.9	51.83	5.977	
10,400.0	10,121.8	12,233.5	9,824.7	43.1	43.3	-37.87	419.8	1,821.9	328.1	276.8	51.33	6.392	
10,425.0	10,140.9	12,248.9	9,824.4	43.1	43.5	-34.46	435.2	1,821.4	346.0	295.0	50.97	6.788	
10,450.0	10,159.1	12,266.3	9,824.0	43.1	43.8	-31.45	452.7	1,820.7	363.2	312.5	50.73	7.160	
10,475.0	10,176.3	12,287.9	9,823.7	43.1	44.1	-28.71	474.2	1,820.0	379.6	329.0	50.58	7.506	
10,500.0	10,192.6	12,310.9	9,823.7	43.2	44.5	-26.41	497.2	1,819.3	395.0	344.5	50.50	7.823	
10,525.0	10,207.9	12,333.2	9,823.8	43.2	44.9	-24.58	519.4	1,818.7	409.4	358.9	50.48	8.111	
10,550.0	10,222.1	12,353.7	9,823.9	43.2	45.2	-23.11	539.9	1,818.2	422.8	372.3	50.50	8.373	
10,575.0	10,235.2	12,374.9	9,824.0	43.3	45.5	-21.87	561.1	1,817.6	435.2	384.7	50.55	8.609	
10,600.0	10,247.2	12,396.9	9,824.1	43.3	45.9	-20.81	583.1	1,817.1	446.6	396.0	50.64	8.820	
10,625.0	10,258.1	12,419.6	9,824.2	43.3	46.2	-19.90	605.8	1,816.8	456.9	406.2	50.75	9.004	
10,650.0	10,267.7	12,442.8	9,824.2	43.3	46.6	-19.12	629.0	1,816.6	466.1	415.2	50.87	9.162	
10,675.0	10,276.1	12,468.5	9,824.2	43.4	47.0	-18.41	654.7	1,816.7	474.1	423.1	51.02	9.293	
10,700.0	10,283.3	12,495.5	9,824.2	43.4	47.5	-17.78	681.8	1,817.2	480.8	429.6	51.17	9.394	
10,725.0	10,289.2	12,521.6	9,824.3	43.4	47.9	-17.26	707.8	1,818.0	486.1	434.7	51.34	9.468	
10,750.0	10,293.8	12,545.0	9,824.3	43.4	48.3	-16.87	731.2	1,818.7	490.2	438.7	51.52	9.516	
10,775.0	10,297.2	12,568.5	9,824.4	43.5	48.6	-16.59	754.7	1,819.3	493.2	441.5	51.70	9.538	
10,800.0	10,299.2	12,592.1	9,824.4	43.5	49.0	-16.40	778.3	1,819.8	494.9	443.0	51.90	9.535	
10,826.5	10,300.0	12,617.1	9,824.3	43.5	49.4	-16.29	803.3	1,820.3	495.5	443.4	52.13	9.506	
10,854.4	10,300.0	12,643.6	9,824.2	43.5	49.8	-16.23	829.8	1,820.7	495.5	443.1	52.37	9.462	
10,900.0	10,300.0	12,688.1	9,823.9	43.6	50.6	-16.10	874.3	1,821.6	495.5	442.8	52.76	9.392	
11,000.0	10,300.0	12,803.2	9,823.8	43.7	52.4	-15.54	989.3	1,826.2	494.4	440.7	53.69	9.208	
11,100.0	10,300.0	12,904.4	9,826.0	43.8	54.0	-15.11	1,090.4	1,830.2	491.1	436.5	54.64	8.990	
11,200.0	10,300.0	13,002.4	9,828.8	44.0	55.6	-15.14	1,188.3	1,830.3	488.3	432.6	55.66	8.773	
11,300.0	10,300.0	13,100.7	9,831.4	44.2	57.2	-15.21	1,286.5	1,830.0	485.7	429.0	56.71	8.564	
11,400.0	10,300.0	13,194.1	9,832.6	44.4	58.7	-15.15	1,380.0	1,830.5	484.2	426.4	57.76	8.384	
11,500.0	10,300.0	13,296.1	9,833.5	44.6	60.4	-15.09	1,482.0	1,830.9	483.2	424.3	58.86	8.208	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - FORTY NINER RIDGE 23 FEDERAL 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 99-r.5 MWD												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
11,600.0	10,300.0	13,400.8	9,835.3	44.8	62.1	-15.08	1,586.7	1,831.0	481.4	421.3	60.02	8.020	
11,700.0	10,300.0	13,504.9	9,838.1	45.1	63.8	-15.11	1,690.7	1,831.1	478.7	417.5	61.20	7.821	
11,800.0	10,300.0	13,606.1	9,842.1	45.4	65.4	-15.35	1,791.9	1,829.8	475.1	412.7	62.42	7.611	
11,900.0	10,300.0	13,692.3	9,844.0	45.7	66.8	-15.41	1,878.0	1,829.5	472.9	409.4	63.56	7.441	
11,915.5	10,300.0	13,705.2	9,844.0	45.7	67.0	-15.38	1,890.9	1,829.6	472.9	409.2	63.72	7.421	
12,000.0	10,300.0	13,784.9	9,842.9	46.0	68.3	-15.15	1,970.6	1,831.0	473.5	408.8	64.68	7.321	
12,100.0	10,300.0	13,892.8	9,841.9	46.3	70.1	-14.99	2,078.5	1,831.8	474.2	408.2	65.95	7.189	
12,200.0	10,300.0	14,002.7	9,844.2	46.7	71.9	-15.02	2,188.3	1,831.6	472.1	404.8	67.28	7.017	
12,300.0	10,300.0	14,105.7	9,847.5	47.1	73.6	-15.20	2,291.3	1,830.6	469.2	400.6	68.60	6.839	
12,400.0	10,300.0	14,213.4	9,852.4	47.5	75.3	-15.49	2,398.8	1,829.1	465.1	395.1	69.98	6.646	
12,500.0	10,300.0	14,316.5	9,858.6	47.9	77.0	-15.83	2,501.8	1,827.6	459.5	388.1	71.36	6.439	
12,552.8	10,300.0	14,343.0	9,860.3	48.1	77.4	-15.91	2,528.2	1,827.3	457.2	385.3	71.92	6.357	
12,600.0	10,300.0	14,343.0	9,860.3	48.3	77.4	-15.91	2,528.2	1,827.3	459.6	387.8	71.87	6.396	
12,700.0	10,300.0	14,343.0	9,860.3	48.8	77.4	-15.91	2,528.2	1,827.3	480.3	410.1	70.24	6.838	
12,800.0	10,300.0	14,343.0	9,860.3	49.3	77.4	-15.91	2,528.2	1,827.3	519.8	452.5	67.24	7.730	
12,900.0	10,300.0	14,343.0	9,860.3	49.7	77.4	-15.91	2,528.2	1,827.3	574.1	510.3	63.77	9.003	
13,000.0	10,300.0	14,343.0	9,860.3	50.2	77.4	-15.91	2,528.2	1,827.3	639.5	579.1	60.46	10.577	
13,100.0	10,300.0	14,343.0	9,860.3	50.8	77.4	-15.91	2,528.2	1,827.3	713.1	655.5	57.60	12.379	
13,200.0	10,300.0	14,343.0	9,860.3	51.3	77.4	-15.91	2,528.2	1,827.3	792.4	737.2	55.23	14.347	
13,300.0	10,300.0	14,343.0	9,860.3	51.8	77.4	-15.91	2,528.2	1,827.3	876.0	822.6	53.31	16.431	
13,400.0	10,300.0	14,343.0	9,860.3	52.4	77.4	-15.91	2,528.2	1,827.3	962.7	910.9	51.77	18.595	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER 23 11 GBI FED CO 014H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 226-r.5 MWD													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	33.8	-0.2	0.0	0.4	29.32	551.7	309.9	632.8	631.8	1.03	615.973	
100.0	100.0	133.3	99.3	1.2	1.6	29.33	551.7	310.0	632.9	629.6	3.22	196.483	
200.0	200.0	232.9	198.9	1.7	2.6	29.36	551.7	310.4	633.0	628.1	4.87	129.903	
300.0	300.0	333.8	299.8	2.1	2.9	29.36	551.8	310.4	633.1	627.7	5.45	116.162	
400.0	400.0	436.7	402.7	2.4	3.1	29.34	551.7	310.2	633.0	627.0	5.97	106.019	
500.0	500.0	539.9	505.9	2.7	3.5	29.36	551.0	310.0	632.2	625.6	6.62	95.557	
600.0	600.0	640.8	606.8	3.0	4.0	29.39	549.9	309.7	631.2	623.7	7.47	84.444	
700.0	700.0	739.3	705.3	3.2	4.5	29.42	548.9	309.6	630.2	621.9	8.24	76.513	
800.0	800.0	836.3	802.3	3.5	5.0	29.54	547.7	310.4	629.6	620.6	8.94	70.454	
900.0	900.0	935.9	901.9	3.7	5.4	29.73	546.4	312.1	629.3	619.7	9.59	65.631	
1,000.0	1,000.0	1,036.3	1,002.2	3.9	5.9	29.95	545.0	314.0	629.0	618.7	10.21	61.590	
1,100.0	1,100.0	1,134.3	1,100.2	4.2	6.2	-50.55	543.5	316.1	627.6	616.8	10.80	58.112	
1,200.0	1,199.8	1,232.3	1,198.1	4.5	6.6	-50.74	542.4	318.3	624.5	613.1	11.37	54.904	
1,300.0	1,299.5	1,332.0	1,297.8	4.9	7.0	-51.20	541.3	320.7	619.2	607.3	11.94	51.842	
1,400.0	1,398.7	1,430.8	1,396.6	5.2	7.4	-51.94	540.2	323.2	611.9	599.4	12.51	48.923	
1,500.0	1,497.5	1,526.5	1,492.2	5.5	7.7	-53.00	539.7	325.5	602.9	589.9	13.03	46.257	
1,600.0	1,595.6	1,622.1	1,587.8	5.9	8.1	-54.42	539.9	327.4	592.6	579.0	13.55	43.725	
1,700.0	1,693.1	1,718.8	1,684.5	6.3	8.4	-56.26	540.5	329.1	581.0	566.9	14.05	41.359	
1,767.5	1,758.3	1,783.5	1,749.2	6.5	8.6	-57.71	541.2	330.2	572.5	558.2	14.34	39.923	
1,800.0	1,789.7	1,814.7	1,780.4	6.6	8.7	-58.39	541.5	330.6	568.3	553.9	14.47	39.282	
1,900.0	1,886.1	1,910.3	1,876.0	6.9	8.9	-60.55	542.8	331.9	556.3	541.4	14.93	37.260	
2,000.0	1,982.6	2,005.9	1,971.6	7.3	9.2	-62.82	544.3	333.2	545.3	530.0	15.38	35.452	
2,100.0	2,079.0	2,101.2	2,066.9	7.7	9.4	-65.19	546.1	334.2	535.6	519.8	15.82	33.862	
2,200.0	2,175.4	2,197.0	2,162.6	8.1	9.7	-67.68	548.2	335.0	527.1	510.9	16.24	32.451	
2,300.0	2,271.9	2,294.3	2,259.9	8.5	9.9	-70.28	550.4	335.8	519.7	503.1	16.67	31.176	
2,400.0	2,368.3	2,392.8	2,358.4	8.9	10.2	-72.97	552.4	336.8	513.4	496.3	17.09	30.035	
2,500.0	2,464.7	2,493.8	2,459.3	9.3	10.5	-75.76	553.8	337.9	507.5	490.0	17.51	28.984	
2,600.0	2,561.2	2,596.0	2,561.5	9.8	10.7	-78.64	554.3	339.0	502.0	484.2	17.85	28.129	
2,700.0	2,657.6	2,695.7	2,661.2	10.2	10.9	-81.46	553.7	340.5	496.7	478.5	18.17	27.334	
2,800.0	2,754.0	2,791.5	2,757.0	10.6	11.2	-84.22	553.1	341.9	492.6	474.0	18.59	26.499	
2,900.0	2,850.5	2,887.5	2,853.0	11.1	11.5	-87.05	552.7	343.1	489.9	470.9	19.02	25.761	
3,000.0	2,946.9	2,983.5	2,949.0	11.5	11.7	-89.93	552.4	344.0	488.7	469.2	19.47	25.103	
3,031.7	2,977.4	3,013.9	2,979.4	11.7	11.8	-90.85	552.3	344.2	488.6	469.0	19.62	24.908 CC, ES	
3,100.0	3,043.3	3,079.8	3,045.3	12.0	12.0	-92.83	552.1	344.8	489.0	469.0	19.95	24.515	
3,200.0	3,139.8	3,177.1	3,142.6	12.5	12.3	-95.58	552.2	347.1	490.5	470.0	20.45	23.982	
3,300.0	3,236.2	3,275.4	3,240.7	12.9	12.6	-98.14	552.7	351.1	493.0	472.0	20.98	23.496	
3,400.0	3,332.6	3,374.5	3,339.7	13.4	12.9	-100.49	553.4	356.9	496.3	474.7	21.54	23.040	
3,500.0	3,429.1	3,476.3	3,441.2	13.9	13.3	-102.72	554.3	364.4	499.8	477.7	22.13	22.586	
3,600.0	3,525.5	3,578.9	3,543.5	14.3	13.6	-104.97	554.2	371.9	503.3	480.5	22.76	22.112	
3,700.0	3,621.9	3,678.3	3,642.7	14.8	13.9	-107.14	553.4	379.3	506.8	483.4	23.42	21.642	
3,800.0	3,718.4	3,777.2	3,741.3	15.3	14.3	-109.30	552.4	386.5	511.0	486.8	24.11	21.189	
3,900.0	3,814.8	3,876.2	3,840.0	15.7	14.6	-111.42	551.2	393.7	515.6	490.8	24.85	20.746	
4,000.0	3,911.2	3,975.2	3,938.8	16.2	15.0	-113.51	549.8	401.1	520.8	495.2	25.63	20.321	
4,100.0	4,007.7	4,075.3	4,038.6	16.7	15.3	-115.55	548.4	408.9	526.4	500.0	26.43	19.915	
4,200.0	4,104.1	4,176.3	4,139.2	17.2	15.6	-117.49	547.0	417.6	532.2	505.0	27.24	19.538	
4,300.0	4,200.5	4,278.5	4,240.9	17.7	15.9	-119.37	545.2	427.1	537.9	509.9	28.03	19.193	
4,400.0	4,297.0	4,376.0	4,337.9	18.1	16.3	-121.12	543.3	436.4	543.9	515.0	28.91	18.816	
4,500.0	4,393.4	4,471.4	4,432.9	18.6	16.6	-122.78	541.7	445.4	550.6	520.8	29.79	18.482	
4,600.0	4,489.8	4,561.4	4,522.5	19.1	17.0	-124.26	541.4	453.6	559.0	528.4	30.64	18.244	
4,700.0	4,586.3	4,662.6	4,613.4	19.6	17.3	-125.64	542.6	461.5	569.2	537.8	31.48	18.081	
4,800.0	4,682.7	4,750.5	4,710.9	20.1	17.6	-127.02	544.5	469.9	580.4	548.1	32.34	17.947	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER 23 11 GBI FED CO 014H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 226-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned:				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	No-Go Distance	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
4,900.0	4,779.1	4,850.2	4,810.1	20.6	18.0	-128.37	546.6	478.5	592.0	558.7	33.22	17.819	
5,000.0	4,875.6	4,956.1	4,915.7	21.0	18.4	-129.81	547.7	487.8	603.0	568.8	34.17	17.645	
5,100.0	4,972.0	5,058.9	5,018.0	21.5	18.8	-131.25	547.3	497.1	613.2	578.1	35.14	17.449	
5,200.0	5,068.4	5,157.6	5,116.3	22.0	19.1	-132.61	546.5	506.0	623.6	587.5	36.12	17.265	
5,300.0	5,164.9	5,252.6	5,211.0	22.5	19.5	-133.89	545.7	514.5	634.4	597.3	37.07	17.114	
5,400.0	5,261.3	5,344.3	5,302.3	23.0	19.8	-135.04	545.8	522.3	646.4	608.5	37.98	17.020	
5,500.0	5,357.7	5,438.1	5,395.8	23.5	20.1	-136.12	546.9	529.9	659.7	620.8	38.89	16.964	
5,600.0	5,454.2	5,533.9	5,491.4	24.0	20.5	-137.20	548.2	537.2	673.6	633.8	39.80	16.923	
5,700.0	5,550.6	5,630.4	5,587.6	24.5	20.8	-138.26	549.4	544.2	688.1	647.3	40.72	16.896	
5,800.0	5,647.0	5,727.4	5,684.3	25.0	21.2	-139.28	550.8	551.1	702.9	661.3	41.65	16.878	
5,900.0	5,743.4	5,825.4	5,782.1	25.5	21.5	-140.27	552.3	557.9	718.1	675.6	42.58	16.867	
6,000.0	5,839.9	5,924.2	5,880.6	25.9	21.9	-141.21	553.9	565.0	733.5	690.0	43.51	16.858	
6,100.0	5,936.3	6,022.1	5,978.2	26.4	22.2	-142.09	555.5	572.1	748.9	704.5	44.44	16.853	
6,200.0	6,032.7	6,119.5	6,075.4	26.9	22.6	-142.96	556.9	579.0	764.7	719.3	45.36	16.858	
6,300.0	6,129.2	6,219.7	6,175.4	27.4	22.9	-143.85	558.0	585.9	780.5	734.2	46.32	16.851	
6,400.0	6,225.6	6,321.0	6,276.3	27.9	23.3	-144.78	558.0	592.9	796.2	748.8	47.31	16.828 SF	
6,500.0	6,322.0	6,414.3	6,369.4	28.4	23.6	-145.65	557.4	598.9	812.0	763.8	48.25	16.828	
6,600.0	6,418.5	6,506.0	6,461.1	28.9	23.9	-146.50	556.8	604.2	828.8	779.6	49.18	16.852	
6,700.0	6,514.9	6,602.6	6,557.5	29.4	24.3	-147.38	556.2	609.2	846.2	796.1	50.15	16.874	
6,800.0	6,611.3	6,700.5	6,655.2	29.9	24.6	-148.23	555.5	614.2	863.8	812.7	51.12	16.898	
6,900.0	6,707.8	6,797.1	6,751.7	30.4	24.9	-149.06	554.5	619.1	881.7	829.6	52.02	16.948	
7,000.0	6,804.2	6,887.7	6,842.0	30.9	25.4	-149.55	557.6	624.7	900.1	847.0	53.12	16.943	
7,100.0	6,900.6	6,995.6	6,947.0	31.4	25.7	-148.96	578.2	637.0	919.2	865.5	53.72	17.111	
7,200.0	6,997.1	7,074.6	7,018.6	31.9	25.9	-147.54	607.4	652.5	937.3	883.5	53.81	17.419	
7,300.0	7,093.5	7,113.3	7,051.5	32.4	26.0	-146.58	626.4	660.1	960.7	907.1	53.64	17.911	
7,400.0	7,189.9	7,142.0	7,074.9	32.9	26.1	-145.79	642.3	664.9	990.6	937.4	53.22	18.614	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER 23-11 HAI FED COM 013H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 124-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,068.4	5,040.6	4,987.8	22.0	19.0	-23.75	700.0	1,823.8	987.8	951.8	35.99	27.445	
5,300.0	5,164.9	5,137.7	5,084.0	22.5	19.4	-23.71	695.1	1,836.4	971.6	934.8	36.77	26.426	
5,400.0	5,261.3	5,234.7	5,180.1	23.0	19.8	-23.68	690.4	1,849.1	955.4	917.9	37.54	25.450	
5,500.0	5,357.7	5,337.7	5,282.0	23.5	20.2	-23.66	685.6	1,862.7	939.6	901.2	38.32	24.521	
5,600.0	5,454.2	5,449.7	5,393.3	24.0	20.7	-23.76	681.2	1,874.8	922.1	883.0	39.04	23.617	
5,700.0	5,550.6	5,577.7	5,520.7	24.5	21.2	-24.00	676.5	1,886.2	903.2	863.6	39.65	22.779	
5,800.0	5,647.0	5,691.4	5,634.2	25.0	21.6	-24.41	672.7	1,891.6	881.1	840.9	40.18	21.931	
5,900.0	5,743.4	5,789.9	5,732.6	25.5	21.9	-24.87	670.1	1,895.0	858.2	817.5	40.72	21.075	
6,000.0	5,839.9	5,890.9	5,833.5	25.9	22.2	-25.45	668.0	1,897.5	835.1	793.9	41.22	20.261	
6,100.0	5,936.3	5,988.2	5,930.9	26.4	22.4	-26.07	666.3	1,899.5	811.8	770.1	41.71	19.464	
6,200.0	6,032.7	6,084.7	6,027.3	26.9	22.7	-26.73	664.8	1,901.4	788.6	746.4	42.18	18.693	
6,300.0	6,129.2	6,180.5	6,123.1	27.4	23.0	-27.44	663.4	1,903.2	765.5	722.8	42.66	17.945	
6,400.0	6,225.6	6,273.4	6,216.0	27.9	23.2	-28.27	663.3	1,904.6	743.0	699.9	43.13	17.225	
6,500.0	6,322.0	6,371.6	6,314.2	28.4	23.3	-29.26	663.9	1,905.6	720.8	677.2	43.54	16.554	
6,600.0	6,418.5	6,469.4	6,412.0	28.9	23.4	-30.32	664.4	1,906.4	698.6	654.7	43.91	15.908	
6,700.0	6,514.9	6,567.1	6,509.7	29.4	23.6	-31.45	664.9	1,907.1	676.5	632.2	44.26	15.286	
6,800.0	6,611.3	6,665.1	6,607.7	29.9	23.7	-32.65	665.3	1,907.7	654.5	609.9	44.55	14.690	
6,900.0	6,707.8	6,762.0	6,704.6	30.4	23.8	-33.93	665.5	1,908.1	632.6	587.8	44.82	14.116	
7,000.0	6,804.2	6,842.8	6,785.3	30.9	23.8	-35.11	666.3	1,908.3	611.6	566.3	45.26	13.512	
7,100.0	6,900.6	6,912.0	6,854.3	31.4	23.8	-36.46	672.1	1,909.4	596.4	550.6	45.80	13.022	
7,200.0	6,997.1	6,957.0	6,898.6	31.9	23.8	-37.54	679.4	1,910.8	588.0	541.8	46.17	12.735	
7,257.2	7,052.2	6,989.7	6,930.6	32.2	23.8	-38.44	686.5	1,912.0	586.8	540.6	46.19	12.704 CC, ES, SF	
7,300.0	7,093.5	7,008.0	6,948.2	32.4	23.8	-38.98	691.2	1,912.7	587.5	541.4	46.16	12.729	
7,400.0	7,189.9	7,066.0	7,003.2	32.9	23.7	-40.91	709.4	1,914.7	595.1	549.1	46.00	12.937	
7,500.0	7,286.4	7,104.0	7,038.2	33.4	23.7	-42.29	724.1	1,916.3	611.6	566.1	45.52	13.436	
7,600.0	7,382.8	7,164.7	7,092.2	33.9	23.7	-44.64	751.8	1,918.8	636.0	591.1	44.93	14.155	
7,700.0	7,479.2	7,197.0	7,119.7	34.4	23.6	-45.94	768.6	1,920.1	668.9	624.9	43.97	15.212	
7,800.0	7,575.7	7,248.3	7,161.6	34.9	23.6	-48.04	798.1	1,922.0	709.0	665.8	43.20	16.413	
7,900.0	7,672.1	7,292.0	7,195.1	35.4	23.6	-49.84	826.1	1,923.5	756.7	714.2	42.45	17.823	
8,000.0	7,768.5	7,292.0	7,195.1	35.9	23.6	-49.84	826.1	1,923.5	811.3	770.3	41.09	19.748	
8,100.0	7,865.0	7,345.5	7,233.1	36.4	23.6	-51.96	863.7	1,925.6	870.0	829.3	40.65	21.402	
8,119.1	7,883.4	7,350.8	7,236.7	36.4	23.6	-52.17	867.6	1,925.9	881.9	841.4	40.50	21.775	
8,200.0	7,961.6	7,386.0	7,259.5	36.8	23.6	-54.00	894.3	1,927.7	934.9	894.7	40.17	23.272	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER FEDERAL 23 11 HAL 003H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 124-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,500.0	4,393.4	4,458.9	4,416.5	18.6	9.1	-42.10	895.6	1,447.3	989.8	963.5	26.33	37.593	
4,600.0	4,489.8	4,553.0	4,510.0	19.1	9.2	-43.71	900.3	1,438.2	967.9	941.2	26.68	36.279	
4,700.0	4,586.3	4,648.4	4,604.8	19.6	9.3	-45.43	905.2	1,428.6	946.7	919.7	27.00	35.068	
4,800.0	4,682.7	4,743.8	4,699.7	20.1	9.5	-47.20	909.8	1,419.1	926.2	898.9	27.29	33.941	
4,900.0	4,779.1	4,833.0	4,788.2	20.6	9.6	-48.95	914.4	1,409.9	906.7	879.1	27.59	32.858	
5,000.0	4,875.6	4,927.2	4,881.7	21.0	9.8	-50.92	919.9	1,399.5	888.5	860.6	27.83	31.924	
5,100.0	4,972.0	5,020.9	4,974.6	21.5	9.9	-52.97	925.4	1,389.0	871.3	843.2	28.04	31.068	
5,200.0	5,068.4	5,113.1	5,066.0	22.0	10.1	-55.07	930.8	1,378.5	855.3	827.1	28.24	30.288	
5,300.0	5,164.9	5,207.8	5,160.0	22.5	10.4	-57.28	936.4	1,367.7	840.7	812.3	28.40	29.607	
5,400.0	5,261.3	5,328.8	5,279.8	23.0	10.7	-60.32	942.3	1,351.8	826.0	797.6	28.38	29.101	
5,500.0	5,357.7	5,419.4	5,369.3	23.5	10.9	-62.78	945.8	1,337.8	811.3	782.8	28.49	28.476	
5,600.0	5,454.2	5,513.1	5,461.8	24.0	11.2	-65.39	949.2	1,323.5	798.1	769.6	28.57	27.939	
5,700.0	5,550.6	5,605.3	5,552.9	24.5	11.4	-67.99	952.2	1,309.7	786.7	758.1	28.65	27.455	
5,800.0	5,647.0	5,699.2	5,645.9	25.0	11.7	-70.60	954.8	1,297.2	777.0	748.3	28.75	27.028	
5,900.0	5,743.4	5,792.5	5,738.5	25.5	12.0	-73.14	957.0	1,286.3	768.9	740.0	28.87	26.634	
6,000.0	5,839.9	5,875.2	5,820.8	25.9	12.2	-75.33	959.3	1,277.9	763.1	734.0	29.07	26.251	
6,100.0	5,936.3	5,966.6	5,911.8	26.4	12.5	-77.66	962.5	1,270.4	759.7	730.4	29.28	25.946	
6,200.0	6,032.7	6,074.4	6,019.3	26.9	12.9	-80.28	965.6	1,263.5	757.3	727.8	29.51	25.661	
6,300.0	6,129.2	6,173.3	6,118.1	27.4	13.1	-82.53	967.1	1,259.5	754.8	725.0	29.80	25.332	
6,400.0	6,225.6	6,268.0	6,212.8	27.9	13.4	-84.68	968.5	1,256.0	753.4	723.3	30.14	25.001	
6,477.5	6,300.3	6,343.0	6,287.7	28.3	13.6	-86.38	969.5	1,253.2	753.1	722.7	30.43	24.748 CC	
6,500.0	6,322.0	6,364.9	6,309.6	28.4	13.6	-86.88	969.8	1,252.3	753.1	722.6	30.52	24.674 ES	
6,600.0	6,418.5	6,457.0	6,401.6	28.9	13.9	-88.96	970.8	1,249.1	753.8	722.8	30.96	24.348	
6,700.0	6,514.9	6,538.1	6,482.6	29.4	14.1	-90.81	972.5	1,245.7	756.8	725.3	31.46	24.053	
6,800.0	6,611.3	6,628.8	6,573.1	29.9	14.4	-92.91	976.0	1,240.9	762.7	730.6	32.05	23.799	
6,900.0	6,707.8	6,724.9	6,669.0	30.4	14.7	-95.12	979.6	1,235.6	769.8	737.1	32.71	23.535	
7,000.0	6,804.2	6,821.9	6,765.8	30.9	15.0	-97.32	983.0	1,230.2	778.0	744.5	33.44	23.266	
7,100.0	6,900.6	6,919.6	6,863.3	31.4	15.3	-99.50	986.2	1,224.7	787.0	752.8	34.23	22.993	
7,200.0	6,997.1	6,992.4	6,935.9	31.9	15.6	-101.06	989.3	1,220.7	798.1	763.1	34.98	22.813	
7,300.0	7,093.5	7,062.0	7,005.2	32.4	15.9	-102.43	994.9	1,217.3	813.3	777.6	35.71	22.771 SF	
7,400.0	7,189.9	7,109.0	7,051.7	32.9	16.1	-103.16	1,001.7	1,216.4	833.5	797.4	36.18	23.036	
7,500.0	7,286.4	7,155.0	7,096.3	33.4	16.2	-103.58	1,012.6	1,218.0	860.1	823.6	36.52	23.554	
7,600.0	7,382.8	7,185.4	7,125.1	33.9	16.3	-103.73	1,022.3	1,219.6	892.9	856.1	36.80	24.262	
7,700.0	7,479.2	7,218.8	7,155.9	34.4	16.5	-103.82	1,035.1	1,221.4	931.9	894.9	37.09	25.129	
7,800.0	7,575.7	7,250.0	7,183.7	34.9	16.7	-103.83	1,049.1	1,223.2	976.6	939.3	37.30	26.183	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER FEDERAL COM 23 11 GBL 004H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD												Offset Well Error:	0.0 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	32.5	0.5	0.0	0.4	23.42	543.0	235.2	591.8	590.8	1.01	587.805	
100.0	100.0	134.1	102.1	1.2	1.6	23.40	542.9	235.0	591.5	588.3	3.23	182.942	
200.0	200.0	235.4	203.4	1.7	2.7	23.36	542.6	234.4	591.1	586.1	4.93	119.851	
300.0	300.0	334.5	302.4	2.1	3.3	23.34	542.2	234.0	590.6	584.6	5.99	98.515	
400.0	400.0	433.6	401.6	2.4	4.0	23.35	541.9	234.0	590.2	583.3	6.97	84.739	
500.0	500.0	533.1	501.1	2.7	4.5	23.34	541.7	233.7	590.0	582.2	7.76	75.986	
600.0	600.0	632.5	600.5	3.0	4.9	23.27	541.9	233.0	589.9	581.4	8.50	69.404	
648.0	648.0	680.0	648.0	3.1	5.1	23.23	542.0	232.6	589.8	581.0	8.82	66.905	
700.0	700.0	731.5	699.5	3.2	5.3	23.18	542.2	232.2	589.9	580.7	9.16	64.397	
800.0	800.0	831.7	799.7	3.5	5.7	23.07	542.8	231.2	590.0	580.2	9.78	60.311	
900.0	900.0	932.6	900.6	3.7	6.1	22.96	543.2	230.1	589.9	579.6	10.38	56.842	
1,000.0	1,000.0	1,033.2	1,001.1	3.9	6.5	22.85	543.5	229.0	589.8	578.8	10.94	53.887	
1,100.0	1,100.0	1,133.7	1,101.6	4.2	6.9	-57.99	543.6	228.2	588.6	577.1	11.52	51.097	
1,200.0	1,199.8	1,233.5	1,201.4	4.5	7.3	-58.54	543.6	227.4	585.6	573.5	12.06	48.565	
1,300.0	1,299.5	1,333.1	1,301.0	4.9	7.6	-59.42	543.6	226.7	580.8	568.2	12.59	46.135	
1,400.0	1,398.7	1,432.8	1,400.8	5.2	7.9	-60.63	543.5	226.1	574.4	561.3	13.11	43.828	
1,500.0	1,497.5	1,532.0	1,500.0	5.5	8.3	-62.19	543.3	225.5	566.4	552.8	13.61	41.616	
1,600.0	1,595.6	1,630.5	1,598.5	5.9	8.6	-64.12	543.0	224.9	557.2	543.1	14.09	39.531	
1,700.0	1,693.1	1,728.2	1,696.2	6.3	8.9	-66.45	542.6	224.3	547.0	532.5	14.57	37.553	
1,767.5	1,758.3	1,793.5	1,761.5	6.5	9.1	-68.26	542.4	223.6	539.9	525.0	14.84	36.369	
1,800.0	1,789.7	1,824.9	1,792.8	6.6	9.2	-69.13	542.3	223.2	536.4	521.5	14.97	35.844	
1,900.0	1,886.1	1,920.4	1,888.4	6.9	9.5	-71.87	542.1	221.6	526.7	511.3	15.39	34.217	
2,000.0	1,982.6	2,014.7	1,982.6	7.3	9.9	-74.70	542.1	219.6	518.6	502.8	15.80	32.827	
2,100.0	2,079.0	2,108.8	2,076.7	7.7	10.2	-77.64	542.5	217.3	512.3	496.1	16.20	31.624	
2,200.0	2,175.4	2,202.7	2,170.6	8.1	10.5	-80.69	543.3	214.6	507.9	491.3	16.60	30.596	
2,300.0	2,271.9	2,297.3	2,265.1	8.5	10.8	-83.84	544.3	211.4	505.4	488.4	17.01	29.710	
2,392.2	2,360.7	2,385.8	2,353.5	8.9	11.1	-86.89	545.2	207.6	504.7	487.3	17.41	28.988 CC	
2,400.0	2,368.3	2,393.3	2,361.0	8.9	11.1	-87.15	545.3	207.3	504.7	487.3	17.45	28.930 ES	
2,500.0	2,464.7	2,489.3	2,456.9	9.3	11.5	-90.56	546.0	202.3	505.7	487.8	17.91	28.241	
2,600.0	2,561.2	2,585.9	2,553.3	9.8	11.8	-94.06	546.3	196.4	508.4	490.0	18.41	27.622	
2,700.0	2,657.6	2,681.8	2,648.9	10.2	12.1	-97.59	546.0	189.8	512.9	494.0	18.94	27.076	
2,800.0	2,754.0	2,777.6	2,744.5	10.6	12.5	-101.06	545.5	183.2	519.2	499.7	19.51	26.605	
2,900.0	2,850.5	2,871.8	2,838.5	11.1	12.8	-104.37	544.9	176.9	527.2	507.1	20.12	26.199	
3,000.0	2,946.9	2,963.6	2,930.1	11.5	13.1	-107.45	544.7	171.0	537.5	516.8	20.77	25.885	
3,100.0	3,043.3	3,057.9	3,024.2	12.0	13.5	-110.45	545.2	165.3	549.9	528.5	21.46	25.627	
3,200.0	3,139.8	3,157.0	3,123.1	12.5	13.8	-113.41	545.6	159.9	563.4	541.2	22.22	25.360	
3,300.0	3,236.2	3,255.0	3,221.1	12.9	14.2	-116.17	545.5	155.3	577.7	554.7	22.99	25.122	
3,400.0	3,332.6	3,351.1	3,317.0	13.4	14.5	-118.78	545.1	150.7	592.9	569.1	23.78	24.932	
3,500.0	3,429.1	3,447.3	3,413.2	13.9	14.8	-121.32	544.2	145.7	609.2	584.6	24.59	24.772	
3,600.0	3,525.5	3,544.2	3,509.9	14.3	15.1	-123.76	542.9	140.8	626.4	601.0	25.42	24.640	
3,700.0	3,621.9	3,639.3	3,604.9	14.8	15.5	-126.04	541.5	136.1	644.4	618.2	26.26	24.544	
3,800.0	3,718.4	3,732.9	3,698.3	15.3	15.8	-128.12	540.6	131.7	663.6	636.5	27.09	24.498	
3,900.0	3,814.8	3,826.8	3,792.2	15.7	16.1	-130.06	540.2	127.4	683.9	655.9	27.94	24.479	
4,000.0	3,911.2	3,920.9	3,886.2	16.2	16.4	-131.88	539.9	123.1	705.0	676.2	28.80	24.478 SF	
4,100.0	4,007.7	4,014.7	3,979.9	16.7	16.7	-133.60	539.7	118.7	727.0	697.3	29.67	24.506	
4,200.0	4,104.1	4,108.1	4,073.1	17.2	17.1	-135.21	539.7	114.2	749.8	719.3	30.53	24.562	
4,300.0	4,200.5	4,204.0	4,168.9	17.7	17.4	-136.77	539.7	109.4	773.3	741.9	31.42	24.612	
4,400.0	4,297.0	4,302.4	4,267.2	18.1	17.7	-138.27	539.8	104.9	797.1	764.7	32.34	24.643	
4,500.0	4,393.4	4,399.9	4,364.7	18.6	18.1	-139.66	539.7	100.8	820.9	787.6	33.25	24.690	
4,600.0	4,489.8	4,496.4	4,461.0	19.1	18.4	-140.96	539.5	96.9	845.0	810.8	34.13	24.755	
4,700.0	4,586.3	4,590.9	4,555.5	19.6	18.7	-142.17	539.2	93.1	869.4	834.4	35.01	24.836	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:	THUNDERDOME PROJECT - ROADRUNNER FEDERAL COM 23 11 GBL 004H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
4,800.0	4,682.7	4,683.9	4,648.4	20.1	19.0	-143.28	539.2	89.2	894.4	858.5	35.86	24.939		
4,900.0	4,779.1	4,778.9	4,743.4	20.6	19.3	-144.35	539.4	85.2	919.8	883.1	36.73	25.042		
5,000.0	4,875.6	4,876.1	4,840.4	21.0	19.6	-145.38	539.7	81.3	945.5	907.9	37.62	25.134		
5,100.0	4,972.0	4,971.2	4,935.5	21.5	19.9	-146.32	540.1	77.6	971.3	932.8	38.49	25.236		
5,200.0	5,068.4	5,064.8	5,029.0	22.0	20.3	-147.20	540.5	73.9	997.4	958.1	39.34	25.352		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER FEDERAL COM 23 ILL 005H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 142-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,800.0	5,647.0	5,730.9	5,678.6	25.0	16.1	47.22	-391.4	1,943.6	981.9	945.2	36.68	26.768	
5,900.0	5,743.4	5,826.2	5,773.9	25.5	16.4	48.24	-388.1	1,942.4	960.6	923.5	37.11	25.884	
6,000.0	5,839.9	5,924.4	5,872.0	25.9	16.6	49.34	-384.6	1,941.0	939.5	902.0	37.52	25.043	
6,100.0	5,936.3	6,016.4	5,963.9	26.4	16.8	50.41	-381.4	1,939.6	918.8	880.8	37.93	24.222	
6,200.0	6,032.7	6,104.5	6,051.9	26.9	17.0	51.51	-379.2	1,938.5	899.1	860.8	38.34	23.451	
6,300.0	6,129.2	6,191.1	6,138.6	27.4	17.2	52.66	-377.9	1,937.8	880.8	842.1	38.72	22.746	
6,400.0	6,225.6	6,276.3	6,223.8	27.9	17.4	53.80	-376.9	1,938.3	864.2	825.1	39.09	22.108	
6,500.0	6,322.0	6,367.4	6,314.8	28.4	17.6	55.00	-376.0	1,940.1	849.2	809.8	39.41	21.546	
6,600.0	6,418.5	6,478.1	6,425.4	28.9	17.8	56.46	-373.9	1,942.2	833.9	794.3	39.60	21.059	
6,700.0	6,514.9	6,581.0	6,528.4	29.4	18.0	57.85	-370.6	1,943.6	817.7	777.9	39.82	20.533	
6,800.0	6,611.3	6,676.3	6,623.6	29.9	18.2	59.21	-367.7	1,944.5	801.9	761.8	40.08	20.006	
6,900.0	6,707.8	6,776.8	6,724.0	30.4	18.3	60.71	-364.8	1,945.3	786.6	746.4	40.27	19.536	
7,000.0	6,804.2	6,877.5	6,824.6	30.9	18.5	62.25	-361.1	1,946.0	771.2	730.7	40.41	19.082	
7,100.0	6,900.6	6,973.9	6,921.0	31.4	18.6	63.77	-357.4	1,946.6	756.0	715.5	40.58	18.631	
7,200.0	6,997.1	7,074.3	7,021.3	31.9	18.8	65.45	-353.6	1,946.8	741.4	700.7	40.72	18.210	
7,300.0	7,093.5	7,166.4	7,113.3	32.4	18.9	67.03	-349.9	1,947.0	727.2	686.3	40.89	17.782	
7,400.0	7,189.9	7,259.3	7,206.2	32.9	19.1	68.70	-346.9	1,947.6	714.4	673.4	41.05	17.402	
7,500.0	7,286.4	7,353.8	7,300.7	33.4	19.3	70.46	-344.2	1,948.2	702.7	661.4	41.24	17.040	
7,600.0	7,382.8	7,447.5	7,394.3	33.9	19.5	72.25	-341.8	1,949.0	692.0	650.6	41.45	16.696	
7,700.0	7,479.2	7,545.1	7,491.8	34.4	19.6	74.17	-339.5	1,949.9	682.4	640.8	41.62	16.398	
7,800.0	7,575.7	7,643.4	7,590.2	34.9	19.8	76.19	-337.1	1,950.3	673.3	631.5	41.77	16.118	
7,900.0	7,672.1	7,736.0	7,682.7	35.4	19.9	78.16	-335.0	1,950.5	665.2	623.2	41.97	15.847	
8,000.0	7,768.5	7,830.1	7,776.8	35.9	20.1	80.23	-333.6	1,950.7	658.6	616.5	42.19	15.612	
8,100.0	7,865.0	7,920.0	7,866.7	36.4	20.2	82.22	-332.3	1,951.0	653.2	610.8	42.43	15.395	
8,119.1	7,883.4	7,920.0	7,866.7	36.4	20.2	82.22	-332.3	1,951.0	652.7	610.3	42.48	15.365	
8,125.6	7,889.6	7,920.0	7,866.7	36.5	20.2	82.22	-332.3	1,951.0	652.7	610.2	42.50	15.359 CC, ES, SF	
8,200.0	7,961.6	7,920.0	7,866.7	36.8	20.2	82.27	-332.3	1,951.0	657.0	614.5	42.48	15.466	
8,300.0	8,058.6	7,920.0	7,866.7	37.3	20.2	82.46	-332.3	1,951.0	675.9	633.9	41.99	16.094	
8,400.0	8,156.0	7,920.0	7,866.7	37.8	20.2	82.80	-332.3	1,951.0	708.7	667.6	41.12	17.236	
8,500.0	8,253.8	7,920.0	7,866.7	38.3	20.2	83.30	-332.3	1,951.0	753.7	713.7	40.04	18.825	
8,600.0	8,351.9	7,920.0	7,866.7	38.8	20.2	83.96	-332.3	1,951.0	808.8	769.8	38.92	20.782	
8,700.0	8,450.4	7,920.0	7,866.7	39.2	20.2	84.77	-332.3	1,951.0	872.0	834.1	37.87	23.025	
8,800.0	8,549.2	7,920.0	7,866.7	39.7	20.2	85.75	-332.3	1,951.0	941.7	904.8	36.96	25.479	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - ROADRUNNER FEDERAL COM 23 ILL 005H - ST01 - AWP												Offset Site Error:	0.0 usft
Survey Program: 142-r.5 MWD, 7021-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,800.0	5,647.0	5,730.9	5,678.6	25.0	16.1	47.22	-391.4	1,943.6	981.9	945.2	36.68		
5,900.0	5,743.4	5,826.2	5,773.9	25.5	16.4	48.24	-388.1	1,942.4	960.6	923.5	37.11		
6,000.0	5,839.9	5,924.4	5,872.0	25.9	16.6	49.34	-384.6	1,941.0	939.5	902.0	37.52		
6,100.0	5,936.3	6,016.4	5,963.9	26.4	16.8	50.41	-381.4	1,939.6	918.8	880.8	37.93		
6,200.0	6,032.7	6,104.5	6,051.9	26.9	17.0	51.51	-379.2	1,938.5	899.1	860.8	38.34		
6,300.0	6,129.2	6,191.1	6,138.6	27.4	17.2	52.66	-377.9	1,937.8	880.8	842.1	38.72		
6,400.0	6,225.6	6,276.3	6,223.8	27.9	17.4	53.80	-376.9	1,938.3	864.2	825.1	39.09		
6,500.0	6,322.0	6,367.4	6,314.8	28.4	17.6	55.00	-376.0	1,940.1	849.2	809.8	39.41		
6,600.0	6,418.5	6,478.1	6,425.4	28.9	17.8	56.46	-373.9	1,942.2	833.9	794.3	39.60		
6,700.0	6,514.9	6,581.0	6,528.4	29.4	18.0	57.85	-370.6	1,943.6	817.7	777.9	39.82		
6,800.0	6,611.3	6,676.3	6,623.6	29.9	18.2	59.21	-367.7	1,944.5	801.9	761.8	40.08		
6,900.0	6,707.8	6,776.8	6,724.0	30.4	18.3	60.71	-364.8	1,945.3	786.6	746.4	40.27		
7,000.0	6,804.2	6,877.5	6,824.6	30.9	18.5	62.25	-361.1	1,946.0	771.2	730.7	40.41		
7,100.0	6,900.6	7,540.6	7,403.8	31.4	19.9	84.55	-224.5	1,762.6	740.5	708.0	32.47		
7,200.0	6,997.1	7,580.6	7,425.7	31.9	20.1	88.61	-219.4	1,729.5	670.7	636.9	33.78		
7,300.0	7,093.5	7,609.3	7,440.8	32.4	20.2	91.68	-216.4	1,705.3	607.8	572.3	35.52		
7,400.0	7,189.9	7,637.9	7,455.7	32.9	20.4	94.83	-213.7	1,681.0	554.4	516.9	37.55		
7,500.0	7,286.4	7,668.7	7,471.4	33.4	20.5	98.30	-210.9	1,654.7	513.5	473.8	39.75		
7,600.0	7,382.8	7,697.3	7,485.4	33.9	20.7	101.58	-208.3	1,629.9	488.3	446.5	41.77		
7,683.9	7,463.8	7,716.1	7,494.1	34.3	20.9	103.76	-206.6	1,613.3	481.3	438.4	42.90	11.220 CC, ES	
7,700.0	7,479.2	7,719.2	7,495.5	34.4	20.9	104.13	-206.3	1,610.5	481.6	438.6	43.03	11.192 SF	
7,800.0	7,575.7	7,736.4	7,503.0	34.9	21.0	106.13	-204.8	1,595.2	494.6	451.4	43.21		
7,900.0	7,672.1	7,748.0	7,507.9	35.4	21.1	107.49	-203.8	1,584.7	526.2	483.8	42.36		
8,000.0	7,768.5	7,761.2	7,513.3	35.9	21.2	109.03	-202.7	1,572.7	573.2	532.1	41.09		
8,100.0	7,865.0	7,770.6	7,517.0	36.4	21.3	110.12	-202.0	1,564.1	632.5	592.9	39.58		
8,119.1	7,883.4	7,772.2	7,517.6	36.4	21.3	110.31	-201.8	1,562.6	644.9	605.6	39.29		
8,200.0	7,961.6	7,779.0	7,520.2	36.8	21.4	111.81	-201.3	1,556.4	700.7	662.6	38.14		
8,300.0	8,058.6	7,789.0	7,524.0	37.3	21.5	113.98	-200.6	1,547.2	775.3	738.4	36.94		
8,400.0	8,156.0	7,799.0	7,527.7	37.8	21.6	116.28	-199.8	1,537.9	854.6	818.6	35.93		
8,500.0	8,253.8	7,811.0	7,532.1	38.3	21.7	118.88	-198.9	1,526.7	937.2	902.0	35.15		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 706H - PILOT HOLE - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 206-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	44.1	-0.9	0.0	3.0	-141.39	-150.1	-119.9	192.1	187.4	4.67	41.125	
100.0	100.0	142.1	97.1	1.2	3.0	-141.34	-150.8	-120.6	193.1	188.1	5.04	38.351	
200.0	200.0	240.6	195.6	1.7	3.1	-141.26	-152.2	-122.1	195.1	189.8	5.39	36.220	
300.0	300.0	340.8	295.8	2.1	3.1	-141.43	-154.4	-123.1	197.5	191.7	5.74	34.393	
400.0	400.0	448.1	403.0	2.4	3.2	-141.90	-155.8	-122.2	198.0	191.9	6.08	32.575	
500.0	500.0	551.3	506.2	2.7	3.2	-142.06	-154.0	-120.0	195.3	188.9	6.39	30.589	
600.0	600.0	650.6	605.5	3.0	3.3	-142.07	-151.6	-118.1	192.2	185.5	6.68	28.759	
700.0	700.0	750.1	704.9	3.2	3.3	-142.14	-149.6	-116.3	189.5	182.6	6.98	27.166	
800.0	800.0	846.6	801.4	3.5	3.4	-142.31	-148.1	-114.5	187.2	179.9	7.26	25.770	
856.4	856.4	901.7	856.4	3.6	3.4	-142.34	-148.1	-114.3	187.1	179.6	7.42	25.211 CC	
900.0	900.0	944.5	899.3	3.7	3.5	-142.35	-148.2	-114.3	187.1	179.6	7.53	24.841 ES	
1,000.0	1,000.0	1,043.8	998.6	3.9	3.5	-142.34	-148.6	-114.7	187.7	179.9	7.78	24.116	
1,100.0	1,100.0	1,143.8	1,098.5	4.2	3.5	137.42	-149.2	-115.2	189.8	181.7	8.10	23.443	
1,200.0	1,199.8	1,243.0	1,197.7	4.5	3.6	138.37	-149.9	-115.7	194.6	186.2	8.41	23.138	
1,300.0	1,299.5	1,342.2	1,296.9	4.9	3.6	139.80	-151.1	-116.2	202.4	193.6	8.75	23.130 SF	
1,400.0	1,398.7	1,440.8	1,395.6	5.2	3.7	141.58	-152.5	-116.5	213.2	204.0	9.12	23.382	
1,500.0	1,497.5	1,538.8	1,493.6	5.5	3.7	143.66	-154.2	-117.1	227.3	217.7	9.52	23.872	
1,600.0	1,595.6	1,636.4	1,591.1	5.9	3.8	145.90	-156.0	-117.7	244.7	234.7	9.96	24.559	
1,700.0	1,693.1	1,733.9	1,688.6	6.3	3.9	148.33	-157.4	-118.8	265.4	255.0	10.45	25.410	
1,767.5	1,758.3	1,797.8	1,752.5	6.5	3.9	149.98	-158.0	-119.8	281.5	270.8	10.73	26.241	
1,800.0	1,789.7	1,827.7	1,782.4	6.6	3.9	150.82	-158.3	-120.4	289.8	278.9	10.85	26.714	
1,900.0	1,886.1	1,930.1	1,884.7	6.9	4.0	153.50	-158.5	-122.5	315.1	303.8	11.34	27.791	
2,000.0	1,982.6	2,026.3	1,981.0	7.3	4.0	155.72	-157.6	-123.6	339.6	327.7	11.83	28.703	
2,100.0	2,079.0	2,122.1	2,076.7	7.7	4.0	157.69	-156.5	-125.0	364.6	352.2	12.34	29.537	
2,200.0	2,175.4	2,220.9	2,175.5	8.1	4.1	159.47	-155.1	-126.2	389.8	376.9	12.88	30.255	
2,300.0	2,271.9	2,320.9	2,275.5	8.5	4.1	160.84	-154.5	-126.0	414.3	400.8	13.43	30.848	
2,400.0	2,368.3	2,417.4	2,372.0	8.9	4.1	161.89	-154.7	-124.9	438.5	424.5	13.98	31.373	
2,500.0	2,464.7	2,511.5	2,466.1	9.3	4.2	162.73	-155.4	-123.8	463.2	448.7	14.53	31.873	
2,600.0	2,561.2	2,606.2	2,560.8	9.8	4.2	163.50	-156.4	-123.3	488.6	473.5	15.11	32.343	
2,700.0	2,657.6	2,701.3	2,655.9	10.2	4.3	164.17	-157.7	-122.9	514.2	498.5	15.69	32.771	
2,800.0	2,754.0	2,795.5	2,750.0	10.6	4.3	164.76	-159.2	-122.8	540.3	524.0	16.28	33.184	
2,900.0	2,850.5	2,889.0	2,843.5	11.1	4.4	165.27	-161.1	-122.9	566.9	550.0	16.88	33.586	
3,000.0	2,946.9	2,981.3	2,935.8	11.5	4.5	165.71	-163.4	-123.5	594.1	576.6	17.48	33.994	
3,100.0	3,043.3	3,077.2	3,031.6	12.0	4.5	166.07	-166.4	-124.3	621.7	603.6	18.10	34.356	
3,200.0	3,139.8	3,173.3	3,127.6	12.5	4.6	166.32	-170.3	-124.5	649.2	630.5	18.72	34.679	
3,300.0	3,236.2	3,263.3	3,217.6	12.9	4.7	166.52	-174.1	-125.1	677.1	657.8	19.32	35.054	
3,400.0	3,332.6	3,363.2	3,317.4	13.4	4.8	166.89	-176.7	-126.5	705.1	685.1	19.98	35.293	
3,500.0	3,429.1	3,457.7	3,411.9	13.9	4.8	167.17	-179.5	-127.7	733.2	712.6	20.61	35.567	
3,600.0	3,525.5	3,555.4	3,509.5	14.3	4.9	167.37	-183.3	-128.6	761.2	739.9	21.27	35.790	
3,700.0	3,621.9	3,648.9	3,602.9	14.8	5.0	167.53	-187.1	-129.3	789.2	767.3	21.90	36.031	
3,800.0	3,718.4	3,761.5	3,715.5	15.3	5.1	167.91	-188.6	-129.6	815.8	793.1	22.65	36.016	
3,900.0	3,814.8	3,857.4	3,811.4	15.7	5.2	168.25	-189.2	-129.8	842.1	818.8	23.31	36.124	
4,000.0	3,911.2	3,953.3	3,907.3	16.2	5.3	168.57	-189.7	-130.0	868.4	844.5	23.97	36.226	
4,100.0	4,007.7	4,043.0	3,997.0	16.7	5.4	168.85	-190.5	-130.5	895.2	870.6	24.60	36.383	
4,200.0	4,104.1	4,122.5	4,076.4	17.2	5.4	168.90	-194.2	-131.0	923.3	898.1	25.17	36.681	
4,300.0	4,200.5	4,197.9	4,151.5	17.7	5.5	168.78	-200.6	-132.0	953.3	927.6	25.70	37.092	
4,400.0	4,297.0	4,288.3	4,241.4	18.1	5.6	168.58	-209.8	-133.7	984.3	958.0	26.32	37.395	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 706H - ST01 - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 206-r.5 MWD+IFR1+SAG+FDIR, 10746-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	44.1	-0.9	0.0	3.0	-141.39	-150.1	-119.9	192.1	187.4	4.67	41.125	
100.0	100.0	142.1	97.1	1.2	3.0	-141.34	-150.8	-120.6	193.1	188.1	5.04	38.351	
200.0	200.0	240.6	195.6	1.7	3.1	-141.26	-152.2	-122.1	195.1	189.8	5.39	36.220	
300.0	300.0	340.8	295.8	2.1	3.1	-141.43	-154.4	-123.1	197.5	191.7	5.74	34.393	
400.0	400.0	448.1	403.0	2.4	3.2	-141.90	-155.8	-122.2	198.0	191.9	6.08	32.575	
500.0	500.0	551.3	506.2	2.7	3.2	-142.06	-154.0	-120.0	195.3	188.9	6.39	30.589	
600.0	600.0	650.6	605.5	3.0	3.3	-142.07	-151.6	-118.1	192.2	185.5	6.68	28.759	
700.0	700.0	750.1	704.9	3.2	3.3	-142.14	-149.6	-116.3	189.5	182.6	6.98	27.166	
800.0	800.0	846.6	801.4	3.5	3.4	-142.31	-148.1	-114.5	187.2	179.9	7.26	25.770	
856.4	856.4	901.7	856.4	3.6	3.4	-142.34	-148.1	-114.3	187.1	179.6	7.42	25.211 CC	
900.0	900.0	944.5	899.3	3.7	3.5	-142.35	-148.2	-114.3	187.1	179.6	7.53	24.841 ES	
1,000.0	1,000.0	1,043.8	998.6	3.9	3.5	-142.34	-148.6	-114.7	187.7	179.9	7.78	24.116	
1,100.0	1,100.0	1,143.8	1,098.5	4.2	3.5	137.42	-149.2	-115.2	189.8	181.7	8.10	23.443	
1,200.0	1,199.8	1,243.0	1,197.7	4.5	3.6	138.37	-149.9	-115.7	194.6	186.2	8.41	23.138	
1,300.0	1,299.5	1,342.2	1,296.9	4.9	3.6	139.80	-151.1	-116.2	202.4	193.6	8.75	23.130 SF	
1,400.0	1,398.7	1,440.8	1,395.6	5.2	3.7	141.58	-152.5	-116.5	213.2	204.0	9.12	23.382	
1,500.0	1,497.5	1,538.8	1,493.6	5.5	3.7	143.66	-154.2	-117.1	227.3	217.7	9.52	23.872	
1,600.0	1,595.6	1,636.4	1,591.1	5.9	3.8	145.90	-156.0	-117.7	244.7	234.7	9.96	24.559	
1,700.0	1,693.1	1,733.9	1,688.6	6.3	3.9	148.33	-157.4	-118.8	265.4	255.0	10.45	25.410	
1,767.5	1,758.3	1,797.8	1,752.5	6.5	3.9	149.98	-158.0	-119.8	281.5	270.8	10.73	26.241	
1,800.0	1,789.7	1,827.7	1,782.4	6.6	3.9	150.82	-158.3	-120.4	289.8	278.9	10.85	26.714	
1,900.0	1,886.1	1,930.1	1,884.7	6.9	4.0	153.50	-158.5	-122.5	315.1	303.8	11.34	27.791	
2,000.0	1,982.6	2,026.3	1,981.0	7.3	4.0	155.72	-157.6	-123.6	339.6	327.7	11.83	28.703	
2,100.0	2,079.0	2,122.1	2,076.7	7.7	4.0	157.69	-156.5	-125.0	364.6	352.2	12.34	29.537	
2,200.0	2,175.4	2,220.9	2,175.5	8.1	4.1	159.47	-155.1	-126.2	389.8	376.9	12.88	30.255	
2,300.0	2,271.9	2,320.9	2,275.5	8.5	4.1	160.84	-154.5	-126.0	414.3	400.8	13.43	30.848	
2,400.0	2,368.3	2,417.4	2,372.0	8.9	4.1	161.89	-154.7	-124.9	438.5	424.5	13.98	31.373	
2,500.0	2,464.7	2,511.5	2,466.1	9.3	4.2	162.73	-155.4	-123.8	463.2	448.7	14.53	31.873	
2,600.0	2,561.2	2,606.2	2,560.8	9.8	4.2	163.50	-156.4	-123.3	488.6	473.5	15.11	32.343	
2,700.0	2,657.6	2,701.3	2,655.9	10.2	4.3	164.17	-157.7	-122.9	514.2	498.5	15.69	32.771	
2,800.0	2,754.0	2,795.5	2,750.0	10.6	4.3	164.76	-159.2	-122.8	540.3	524.0	16.28	33.184	
2,900.0	2,850.5	2,889.0	2,843.5	11.1	4.4	165.27	-161.1	-122.9	566.9	550.0	16.88	33.586	
3,000.0	2,946.9	2,981.3	2,935.8	11.5	4.5	165.71	-163.4	-123.5	594.1	576.6	17.48	33.994	
3,100.0	3,043.3	3,077.2	3,031.6	12.0	4.5	166.07	-166.4	-124.3	621.7	603.6	18.10	34.356	
3,200.0	3,139.8	3,173.3	3,127.6	12.5	4.6	166.32	-170.3	-124.5	649.2	630.5	18.72	34.679	
3,300.0	3,236.2	3,263.3	3,217.6	12.9	4.7	166.52	-174.1	-125.1	677.1	657.8	19.32	35.054	
3,400.0	3,332.6	3,363.2	3,317.4	13.4	4.8	166.89	-176.7	-126.5	705.1	685.1	19.98	35.293	
3,500.0	3,429.1	3,457.7	3,411.9	13.9	4.8	167.17	-179.5	-127.7	733.2	712.6	20.61	35.567	
3,600.0	3,525.5	3,555.4	3,509.5	14.3	4.9	167.37	-183.3	-128.6	761.2	739.9	21.27	35.790	
3,700.0	3,621.9	3,648.9	3,602.9	14.8	5.0	167.53	-187.1	-129.3	789.2	767.3	21.90	36.031	
3,800.0	3,718.4	3,761.5	3,715.5	15.3	5.1	167.91	-188.6	-129.6	815.8	793.1	22.65	36.016	
3,900.0	3,814.8	3,857.4	3,811.4	15.7	5.2	168.25	-189.2	-129.8	842.1	818.8	23.31	36.124	
4,000.0	3,911.2	3,953.3	3,907.3	16.2	5.3	168.57	-189.7	-130.0	868.4	844.5	23.97	36.226	
4,100.0	4,007.7	4,043.0	3,997.0	16.7	5.4	168.85	-190.5	-130.5	895.2	870.6	24.60	36.383	
4,200.0	4,104.1	4,122.5	4,076.4	17.2	5.4	168.90	-194.2	-131.0	923.3	898.1	25.17	36.681	
4,300.0	4,200.5	4,197.9	4,151.5	17.7	5.5	168.78	-200.6	-132.0	953.3	927.6	25.70	37.092	
4,400.0	4,297.0	4,288.3	4,241.4	18.1	5.6	168.58	-209.8	-133.7	984.3	958.0	26.32	37.395	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 708H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 209-r.5 MWD+IFR1+SAG+FDIR, 10594-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 3.0 usft
Reference													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	47.6	-0.4	0.0	3.0	-158.22	-150.0	-59.9	161.5	156.8	4.67	34.575	
100.0	100.0	145.7	97.7	1.2	3.0	-158.02	-150.4	-60.7	162.2	157.2	5.04	32.219	
200.0	200.0	246.1	198.0	1.7	3.1	-157.84	-151.4	-61.7	163.5	158.1	5.39	30.339	
300.0	300.0	345.8	297.8	2.1	3.1	-157.62	-152.3	-62.7	164.7	159.0	5.74	28.699	
400.0	400.0	448.7	400.7	2.4	3.2	-157.34	-152.7	-63.8	165.5	159.4	6.08	27.227	
500.0	500.0	553.0	504.9	2.7	3.2	-156.75	-150.5	-64.7	163.9	157.5	6.39	25.650	
600.0	600.0	653.1	605.0	3.0	3.3	-156.11	-146.9	-65.1	160.7	154.1	6.69	24.039	
700.0	700.0	752.5	704.3	3.2	3.4	-155.40	-143.5	-65.7	157.8	150.9	6.98	22.619	
800.0	800.0	852.2	804.0	3.5	3.4	-154.73	-140.3	-66.2	155.2	148.0	7.26	21.374	
900.0	900.0	952.1	903.8	3.7	3.5	-154.04	-137.3	-66.8	152.7	145.2	7.54	20.246	
1,000.0	1,000.0	1,052.0	1,003.7	3.9	3.6	-153.37	-134.3	-67.3	150.2	142.4	7.82	19.221	
1,097.7	1,097.7	1,149.2	1,100.8	4.2	3.6	127.22	-131.3	-67.7	148.8	140.7	8.12	18.328 CC	
1,100.0	1,100.0	1,151.3	1,102.9	4.2	3.6	127.25	-131.3	-67.7	148.8	140.7	8.13	18.311 ES	
1,200.0	1,199.8	1,248.2	1,199.8	4.5	3.7	129.29	-130.2	-68.8	151.5	143.1	8.43	17.973	
1,300.0	1,299.5	1,346.3	1,297.8	4.9	3.7	131.46	-131.1	-68.9	158.0	149.3	8.73	18.108	
1,400.0	1,398.7	1,445.2	1,396.8	5.2	3.8	134.16	-132.4	-68.8	167.4	158.4	9.06	18.486	
1,500.0	1,497.5	1,544.2	1,495.8	5.5	3.8	137.36	-133.6	-68.8	179.7	170.3	9.43	19.051	
1,600.0	1,595.6	1,641.9	1,593.5	5.9	3.8	140.72	-134.8	-69.0	195.3	185.4	9.86	19.803	
1,700.0	1,693.1	1,739.0	1,690.5	6.3	3.8	144.04	-136.2	-69.1	214.4	204.1	10.34	20.742	
1,767.5	1,758.3	1,804.3	1,755.9	6.5	3.9	146.22	-137.2	-69.2	229.4	218.7	10.62	21.591	
1,800.0	1,789.7	1,835.6	1,787.2	6.6	3.9	147.29	-137.6	-69.3	237.0	226.2	10.75	22.052	
1,900.0	1,886.1	1,931.2	1,882.8	6.9	3.9	150.21	-139.0	-69.6	261.0	249.8	11.23	23.245	
2,000.0	1,982.6	2,027.6	1,979.1	7.3	4.0	152.67	-140.4	-70.1	285.6	273.9	11.73	24.344	
2,100.0	2,079.0	2,123.3	2,074.8	7.7	4.0	154.73	-141.8	-70.6	310.8	298.6	12.26	25.360	
2,200.0	2,175.4	2,220.1	2,171.6	8.1	4.1	156.54	-143.0	-71.2	336.3	323.5	12.80	26.269	
2,300.0	2,271.9	2,319.3	2,270.8	8.5	4.1	158.19	-143.7	-71.7	361.6	348.2	13.37	27.044	
2,400.0	2,368.3	2,414.7	2,366.2	8.9	4.2	159.69	-143.5	-72.2	386.7	372.8	13.94	27.745	
2,500.0	2,464.7	2,517.6	2,469.1	9.3	4.2	161.08	-143.4	-72.4	411.9	397.4	14.54	28.328	
2,600.0	2,561.2	2,632.5	2,583.9	9.8	4.2	162.58	-140.5	-69.6	433.8	418.7	15.18	28.582	
2,700.0	2,657.6	2,750.6	2,701.6	10.2	4.3	164.21	-133.3	-62.6	451.4	435.6	15.83	28.506	
2,800.0	2,754.0	2,877.5	2,827.3	10.6	4.3	165.82	-122.8	-49.2	464.1	447.6	16.50	28.130	
2,900.0	2,850.5	2,972.1	2,920.8	11.1	4.3	166.80	-115.2	-36.7	474.7	457.6	17.13	27.713	
3,000.0	2,946.9	3,067.3	3,015.0	11.5	4.4	167.73	-108.1	-24.8	486.4	468.7	17.77	27.377	
3,100.0	3,043.3	3,167.1	3,113.8	12.0	4.4	168.60	-101.3	-12.5	498.6	480.2	18.42	27.065	
3,200.0	3,139.8	3,276.4	3,221.9	12.5	4.5	169.32	-94.9	2.4	510.1	491.0	19.10	26.708	
3,300.0	3,236.2	3,369.7	3,314.0	12.9	4.5	169.80	-90.3	15.9	521.0	501.2	19.75	26.377	
3,400.0	3,332.6	3,492.3	3,434.7	13.4	4.6	170.26	-84.7	36.4	530.0	509.5	20.46	25.906	
3,500.0	3,429.1	3,608.1	3,547.7	13.9	4.7	170.28	-81.1	61.9	534.2	513.0	21.14	25.271	
3,600.0	3,525.5	3,701.6	3,638.9	14.3	4.8	170.25	-78.7	82.4	538.8	517.0	21.82	24.696	
3,700.0	3,621.9	3,797.1	3,732.2	14.8	4.9	170.23	-76.5	102.6	544.3	521.8	22.50	24.192	
3,800.0	3,718.4	3,892.5	3,825.6	15.3	5.0	170.26	-74.1	121.7	550.8	527.6	23.19	23.754	
3,900.0	3,814.8	3,999.8	3,930.6	15.7	5.1	170.20	-72.1	143.8	557.0	533.2	23.89	23.314	
4,000.0	3,911.2	4,107.8	4,035.7	16.2	5.2	169.84	-72.5	168.5	561.8	537.2	24.59	22.844	
4,100.0	4,007.7	4,204.2	4,129.3	16.7	5.4	169.35	-74.2	191.4	566.1	540.8	25.28	22.396	
4,200.0	4,104.1	4,301.8	4,224.3	17.2	5.5	168.92	-75.6	214.0	571.0	545.0	25.97	21.988	
4,300.0	4,200.5	4,399.4	4,319.4	17.7	5.6	168.53	-76.9	236.2	576.3	549.6	26.66	21.613	
4,400.0	4,297.0	4,496.0	4,413.5	18.1	5.7	168.17	-78.0	257.6	582.0	554.7	27.36	21.274	
4,500.0	4,393.4	4,595.9	4,511.0	18.6	5.9	167.88	-78.7	279.1	588.2	560.1	28.06	20.960	
4,600.0	4,489.8	4,693.0	4,605.9	19.1	6.0	167.65	-78.8	300.0	594.3	565.5	28.77	20.659	
4,700.0	4,586.3	4,787.0	4,697.9	19.6	6.2	167.51	-78.6	319.1	601.4	571.9	29.47	20.408	
4,800.0	4,682.7	4,898.1	4,806.5	20.1	6.4	167.35	-77.8	342.6	607.3	577.1	30.21	20.105	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 708H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 209-r.5 MWD+IFR1+SAG+FDIR, 10594-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,900.0	4,779.1	4,996.7	4,902.8	20.6	6.5	167.26	-76.6	363.6	613.2	582.3	30.93	19.825	
5,000.0	4,875.6	5,094.8	4,998.8	21.0	6.7	167.25	-74.6	384.0	619.1	587.4	31.66	19.556	
5,100.0	4,972.0	5,192.3	5,094.1	21.5	6.8	167.24	-72.8	404.0	625.4	593.0	32.38	19.313	
5,200.0	5,068.4	5,303.8	5,202.7	22.0	7.0	166.88	-73.7	429.5	630.4	597.2	33.12	19.033	
5,300.0	5,164.9	5,403.6	5,299.7	22.5	7.2	166.56	-74.4	452.9	634.9	601.0	33.83	18.764	
5,400.0	5,261.3	5,494.2	5,388.0	23.0	7.4	166.33	-74.7	473.2	640.2	605.7	34.53	18.538	
5,500.0	5,357.7	5,583.7	5,475.6	23.5	7.5	166.17	-74.8	491.7	647.1	611.9	35.23	18.369	
5,600.0	5,454.2	5,674.7	5,564.9	24.0	7.7	166.08	-74.9	509.0	655.5	619.6	35.92	18.247	
5,700.0	5,550.6	5,796.8	5,684.6	24.5	7.9	165.89	-75.6	532.8	663.9	627.2	36.72	18.081	
5,800.0	5,647.0	5,901.0	5,786.2	25.0	8.1	165.63	-76.0	556.3	669.2	631.8	37.45	17.870	
5,900.0	5,743.4	6,004.6	5,887.0	25.5	8.3	165.37	-76.2	580.2	673.9	635.7	38.18	17.651	
6,000.0	5,839.9	6,105.7	5,985.3	25.9	8.5	165.11	-76.4	604.0	678.2	639.3	38.90	17.433	
6,100.0	5,936.3	6,192.6	6,069.8	26.4	8.7	164.95	-76.1	623.8	683.0	643.4	39.60	17.248	
6,200.0	6,032.7	6,275.2	6,150.8	26.9	8.8	165.06	-73.7	639.7	690.1	649.8	40.29	17.129 SF	
6,300.0	6,129.2	6,344.8	6,219.6	27.4	8.9	165.30	-71.0	650.2	700.7	659.8	40.89	17.137	
6,400.0	6,225.6	6,430.4	6,304.6	27.9	9.1	165.61	-68.7	660.3	714.7	673.1	41.56	17.197	
6,500.0	6,322.0	6,516.7	6,390.4	28.4	9.2	165.93	-66.6	669.0	730.4	688.1	42.22	17.298	
6,600.0	6,418.5	6,600.0	6,473.4	28.9	9.3	166.29	-64.7	675.7	747.9	705.1	42.85	17.454	
6,700.0	6,514.9	6,692.0	6,565.2	29.4	9.5	166.68	-62.8	681.7	767.1	723.5	43.55	17.613	
6,800.0	6,611.3	6,782.5	6,655.5	29.9	9.6	167.05	-61.2	687.1	786.9	742.7	44.23	17.791	
6,900.0	6,707.8	6,874.7	6,747.6	30.4	9.7	167.40	-59.9	691.8	807.7	762.7	44.92	17.979	
7,000.0	6,804.2	6,971.2	6,844.0	30.9	9.9	167.76	-58.7	696.3	828.8	783.2	45.66	18.154	
7,100.0	6,900.6	7,066.0	6,938.7	31.4	10.0	168.08	-57.7	700.7	850.2	803.9	46.37	18.336	
7,200.0	6,997.1	7,163.1	7,035.7	31.9	10.1	168.40	-56.6	704.9	871.9	824.8	47.11	18.508	
7,300.0	7,093.5	7,248.6	7,121.1	32.4	10.2	168.66	-56.0	708.2	894.1	846.4	47.72	18.734	
7,400.0	7,189.9	7,320.2	7,192.7	32.9	10.3	168.85	-56.5	709.4	918.7	870.5	48.17	19.072	
7,500.0	7,286.4	7,417.0	7,289.5	33.4	10.3	169.08	-57.7	710.2	944.4	895.5	48.86	19.326	
7,600.0	7,382.8	7,513.0	7,385.5	33.9	10.4	169.29	-58.7	710.9	970.1	920.5	49.55	19.578	
7,700.0	7,479.2	7,606.4	7,478.8	34.4	10.4	169.48	-60.1	711.5	996.0	945.8	50.20	19.839	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 709H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 166-r.5 MWD+IFR1+SAG+FDIR, 10875-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 3.0 usft
Reference													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	51.7	-0.3	0.0	3.0	-168.70	-150.0	-30.0	153.0	148.3	4.67	32.736	
100.0	100.0	150.9	98.9	1.2	3.0	-168.27	-150.1	-31.2	153.3	148.3	5.04	30.433	
200.0	200.0	250.8	198.8	1.7	3.2	-168.07	-150.7	-31.9	154.1	148.5	5.57	27.655	
300.0	300.0	350.7	298.7	2.1	3.3	-167.95	-151.5	-32.3	154.9	149.0	5.91	26.190	
400.0	400.0	451.9	399.9	2.4	3.3	-167.91	-152.2	-32.6	155.6	149.4	6.24	24.929	
500.0	500.0	552.6	500.6	2.7	3.4	-167.92	-151.7	-32.5	155.2	148.6	6.54	23.724	
600.0	600.0	653.1	601.1	3.0	3.4	-167.82	-151.1	-32.6	154.6	147.8	6.83	22.640	
700.0	700.0	753.0	701.0	3.2	3.5	-167.61	-150.3	-33.0	153.9	146.8	7.11	21.643	
800.0	800.0	852.9	800.9	3.5	3.5	-167.30	-149.5	-33.7	153.3	145.9	7.38	20.756	
900.0	900.0	952.9	900.9	3.7	3.6	-166.99	-148.8	-34.4	152.7	145.0	7.65	19.948	
1,000.0	1,000.0	1,052.6	1,000.6	3.9	3.7	-166.70	-148.1	-35.0	152.2	144.3	7.92	19.222	
1,091.4	1,091.4	1,145.3	1,093.3	4.2	3.7	113.25	-147.2	-34.9	151.8	143.7	8.16	18.602 CC	
1,100.0	1,100.0	1,154.0	1,101.9	4.2	3.7	113.35	-147.1	-34.8	151.8	143.6	8.19	18.548 ES	
1,200.0	1,199.8	1,253.7	1,201.6	4.5	3.8	115.11	-145.9	-34.5	152.7	144.3	8.45	18.068	
1,300.0	1,299.5	1,353.6	1,301.5	4.9	3.8	117.94	-144.7	-34.1	155.4	146.7	8.74	17.785	
1,400.0	1,398.7	1,452.8	1,400.7	5.2	3.9	121.67	-143.5	-33.6	160.2	151.1	9.05	17.692	
1,500.0	1,497.5	1,551.5	1,499.5	5.5	3.9	125.97	-142.5	-32.9	167.7	158.3	9.41	17.815	
1,600.0	1,595.6	1,649.6	1,597.5	5.9	4.0	130.33	-142.1	-31.4	178.5	168.7	9.82	18.185	
1,700.0	1,693.1	1,747.4	1,695.3	6.3	4.0	134.83	-141.8	-29.8	192.8	182.6	10.28	18.752	
1,767.5	1,758.3	1,812.5	1,760.4	6.5	4.0	137.80	-141.6	-28.9	204.7	194.1	10.57	19.360	
1,800.0	1,789.7	1,843.9	1,791.8	6.6	4.1	139.25	-141.6	-28.4	210.9	200.2	10.70	19.713	
1,900.0	1,886.1	1,940.4	1,888.2	6.9	4.1	143.26	-141.5	-27.1	230.9	219.7	11.20	20.619	
2,000.0	1,982.6	2,036.8	1,984.6	7.3	4.2	146.65	-141.4	-26.1	252.0	240.3	11.72	21.506	
2,100.0	2,079.0	2,133.5	2,081.4	7.7	4.2	149.52	-141.4	-25.0	273.8	261.6	12.25	22.349	
2,200.0	2,175.4	2,230.0	2,177.9	8.1	4.3	151.99	-141.3	-24.0	296.3	283.5	12.81	23.131	
2,300.0	2,271.9	2,326.9	2,274.8	8.5	4.3	154.17	-141.1	-23.3	319.3	305.9	13.38	23.859	
2,400.0	2,368.3	2,430.8	2,378.7	8.9	4.4	156.20	-140.1	-21.5	341.6	327.6	14.00	24.397	
2,500.0	2,464.7	2,542.7	2,490.3	9.3	4.5	157.81	-138.7	-15.8	361.2	346.5	14.65	24.657	
2,600.0	2,561.2	2,667.9	2,614.6	9.8	4.6	158.90	-136.0	-0.8	374.5	359.2	15.31	24.461	
2,700.0	2,657.6	2,775.5	2,720.6	10.2	4.7	159.12	-135.3	17.9	384.1	368.2	15.93	24.116	
2,800.0	2,754.0	2,895.1	2,837.5	10.6	4.8	158.95	-135.1	43.0	390.8	374.3	16.54	23.636	
2,900.0	2,850.5	2,990.9	2,930.5	11.1	5.0	158.70	-134.4	65.7	394.8	377.6	17.17	22.999	
3,000.0	2,946.9	3,088.3	3,025.4	11.5	5.1	158.52	-133.7	87.7	399.8	382.0	17.81	22.455	
3,100.0	3,043.3	3,202.9	3,136.4	12.0	5.2	158.07	-133.5	116.0	403.3	384.9	18.43	21.883	
3,200.0	3,139.8	3,299.6	3,229.6	12.5	5.4	157.50	-133.6	141.9	405.0	386.0	19.07	21.242	
3,300.0	3,236.2	3,394.9	3,321.7	12.9	5.5	157.00	-134.0	166.2	408.0	388.3	19.71	20.700	
3,400.0	3,332.6	3,492.2	3,415.9	13.4	5.6	156.47	-135.0	190.5	411.9	391.5	20.35	20.238	
3,500.0	3,429.1	3,588.2	3,509.1	13.9	5.8	155.96	-136.3	214.0	416.5	395.5	20.99	19.839	
3,600.0	3,525.5	3,684.9	3,603.0	14.3	5.9	155.46	-138.1	236.9	422.0	400.4	21.63	19.508	
3,700.0	3,621.9	3,780.7	3,696.3	14.8	6.1	155.06	-139.8	258.7	428.3	406.0	22.28	19.226	
3,800.0	3,718.4	3,876.0	3,789.4	15.3	6.2	154.81	-141.2	278.9	435.7	412.8	22.93	19.003	
3,900.0	3,814.8	3,981.9	3,892.9	15.7	6.4	154.60	-142.4	301.2	443.2	419.6	23.61	18.775	
4,000.0	3,911.2	4,093.9	4,001.5	16.2	6.6	154.08	-143.8	328.6	447.7	423.4	24.27	18.449	
4,100.0	4,007.7	4,195.1	4,099.3	16.7	6.8	153.52	-145.1	354.7	451.3	426.3	24.91	18.115	
4,200.0	4,104.1	4,294.2	4,195.0	17.2	7.0	153.02	-146.0	380.0	454.9	429.3	25.56	17.796	
4,300.0	4,200.5	4,395.4	4,293.0	17.7	7.2	152.63	-146.4	405.3	458.5	432.3	26.22	17.490	
4,400.0	4,297.0	4,498.0	4,392.3	18.1	7.4	152.28	-146.1	431.3	461.6	434.7	26.88	17.172	
4,500.0	4,393.4	4,601.1	4,492.0	18.6	7.6	152.02	-145.0	457.3	464.3	436.7	27.56	16.848	
4,600.0	4,489.8	4,703.4	4,590.9	19.1	7.8	151.79	-143.1	483.7	466.1	437.8	28.24	16.507	
4,700.0	4,586.3	4,799.9	4,684.3	19.6	8.0	151.72	-140.6	507.8	468.1	439.1	28.93	16.181	
4,800.0	4,682.7	4,893.9	4,775.6	20.1	8.1	151.76	-138.0	530.0	471.2	441.5	29.63	15.901	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 709H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 166-r.5 MWD+IFR1+SAG+FDIR, 10875-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis	Distance	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
4,900.0	4,779.1	4,995.7	4,874.7	20.6	8.3	151.89	-135.1	553.0	474.9	444.5	30.35	15.646	
5,000.0	4,875.6	5,101.6	4,977.1	21.0	8.6	151.69	-133.3	579.7	477.2	446.2	31.04	15.372	
5,100.0	4,972.0	5,203.6	5,075.3	21.5	8.8	151.19	-133.5	607.2	479.3	447.6	31.69	15.124	
5,200.0	5,068.4	5,303.2	5,171.3	22.0	9.0	150.74	-133.2	634.2	481.0	448.6	32.34	14.873	
5,300.0	5,164.9	5,407.1	5,271.2	22.5	9.2	150.34	-132.2	662.3	482.4	449.4	33.00	14.620	
5,400.0	5,261.3	5,507.3	5,367.7	23.0	9.4	150.03	-130.5	689.5	483.2	449.5	33.66	14.354	
5,500.0	5,357.7	5,601.0	5,458.1	23.5	9.6	149.85	-128.5	713.7	484.8	450.5	34.34	14.118	
5,600.0	5,454.2	5,699.0	5,553.1	24.0	9.8	149.77	-126.4	737.9	487.4	452.3	35.04	13.910	
5,700.0	5,550.6	5,798.7	5,649.8	24.5	10.0	149.71	-124.1	762.3	490.0	454.3	35.74	13.713	
5,800.0	5,647.0	5,899.0	5,747.0	25.0	10.2	149.66	-121.9	786.7	492.7	456.3	36.44	13.522	
5,900.0	5,743.4	6,001.7	5,846.4	25.5	10.5	149.58	-119.5	812.1	495.2	458.0	37.14	13.332	
6,000.0	5,839.9	6,106.1	5,947.5	25.9	10.7	149.49	-116.7	838.6	496.8	459.0	37.84	13.128	
6,100.0	5,936.3	6,205.7	6,043.6	26.4	10.9	149.41	-113.6	864.2	497.9	459.4	38.54	12.917	
6,200.0	6,032.7	6,297.9	6,132.9	26.9	11.1	149.42	-110.7	886.9	499.9	460.6	39.25	12.735	
6,300.0	6,129.2	6,388.3	6,221.0	27.4	11.3	149.54	-108.2	907.3	503.7	463.7	39.96	12.604	
6,400.0	6,225.6	6,478.3	6,308.8	27.9	11.5	149.59	-107.2	926.7	509.4	468.7	40.64	12.533	
6,500.0	6,322.0	6,571.7	6,400.3	28.4	11.7	149.63	-107.3	945.7	516.7	475.4	41.32	12.504	
6,600.0	6,418.5	6,670.2	6,496.7	28.9	11.9	149.62	-108.0	965.7	524.6	482.6	42.02	12.484	
6,700.0	6,514.9	6,768.4	6,593.0	29.4	12.1	149.60	-109.4	985.0	533.3	490.6	42.71	12.487	
6,800.0	6,611.3	6,879.1	6,701.2	29.9	12.3	149.58	-109.5	1,008.5	540.0	496.6	43.46	12.425	
6,900.0	6,707.8	6,974.2	6,794.1	30.4	12.5	149.58	-109.6	1,028.4	546.9	502.7	44.15	12.388	
7,000.0	6,804.2	7,074.6	6,892.4	30.9	12.7	149.61	-109.7	1,049.1	554.2	509.3	44.86	12.352	
7,100.0	6,900.6	7,186.6	7,001.6	31.4	12.9	149.50	-109.6	1,074.3	559.7	514.1	45.60	12.273	
7,200.0	6,997.1	7,282.9	7,095.2	31.9	13.1	149.35	-109.7	1,096.7	564.8	518.5	46.27	12.207	
7,300.0	7,093.5	7,378.0	7,187.9	32.4	13.3	149.27	-109.9	1,117.7	570.9	524.0	46.94	12.163	
7,400.0	7,189.9	7,498.1	7,305.0	32.9	13.6	149.27	-108.6	1,144.5	576.1	528.3	47.72	12.072	
7,500.0	7,286.4	7,594.7	7,398.8	33.4	13.8	149.36	-105.6	1,167.1	579.0	530.5	48.45	11.951	
7,600.0	7,382.8	7,675.5	7,477.7	33.9	14.0	149.49	-103.4	1,184.6	583.8	534.7	49.13	11.883	
7,700.0	7,479.2	7,767.7	7,568.3	34.4	14.2	149.76	-101.7	1,201.9	591.2	541.3	49.86	11.857	
7,800.0	7,575.7	7,859.4	7,658.6	34.9	14.4	150.09	-100.1	1,217.7	599.8	549.2	50.60	11.854 SF	
7,900.0	7,672.1	7,947.4	7,745.6	35.4	14.5	150.52	-98.4	1,231.0	610.1	558.7	51.33	11.886	
8,000.0	7,768.5	8,035.6	7,833.1	35.9	14.7	151.10	-96.4	1,242.1	622.2	570.2	52.08	11.948	
8,100.0	7,865.0	8,124.9	7,921.8	36.4	14.8	151.85	-93.7	1,250.9	636.1	583.2	52.86	12.033	
8,119.1	7,883.4	8,141.1	7,938.0	36.4	14.9	152.00	-93.1	1,252.2	638.9	585.9	53.00	12.055	
8,200.0	7,961.6	8,210.2	8,006.9	36.8	15.0	152.77	-90.2	1,256.7	651.4	597.8	53.61	12.150	
8,300.0	8,058.6	8,297.4	8,093.9	37.3	15.1	153.77	-86.3	1,260.4	667.1	612.8	54.36	12.272	
8,400.0	8,156.0	8,388.5	8,184.9	37.8	15.2	154.67	-83.1	1,263.7	682.7	627.6	55.11	12.388	
8,500.0	8,253.8	8,476.6	8,273.0	38.3	15.3	155.36	-81.7	1,266.3	698.3	642.6	55.75	12.526	
8,600.0	8,351.9	8,575.0	8,371.3	38.8	15.4	155.94	-81.3	1,269.6	712.9	656.4	56.48	12.621	
8,700.0	8,450.4	8,663.1	8,459.3	39.2	15.5	156.27	-82.7	1,272.7	726.8	669.8	57.00	12.752	
8,800.0	8,549.2	8,767.8	8,563.9	39.7	15.6	156.61	-84.6	1,275.2	740.2	682.4	57.71	12.826	
8,900.0	8,648.2	8,866.0	8,681.8	40.1	15.8	156.52	-89.0	1,283.3	749.2	690.7	58.50	12.807	
9,000.0	8,747.4	8,979.3	8,774.7	40.5	15.9	156.33	-93.4	1,290.5	756.5	697.6	58.93	12.838	
9,100.0	8,846.9	9,078.8	8,873.9	40.9	16.0	156.08	-97.9	1,297.7	762.6	703.2	59.40	12.838	
9,200.0	8,946.5	9,174.4	8,969.2	41.3	16.1	155.84	-102.0	1,304.2	767.3	707.5	59.79	12.833	
9,300.0	9,046.2	9,265.2	9,059.8	41.7	16.2	155.75	-104.2	1,308.3	771.3	711.2	60.13	12.828	
9,400.0	9,146.1	9,358.7	9,153.3	42.0	16.3	155.78	-105.0	1,310.2	774.9	714.4	60.50	12.809	
9,500.0	9,246.0	9,453.0	9,247.6	42.3	16.4	155.76	-106.2	1,311.6	777.6	716.8	60.80	12.789	
9,600.0	9,346.0	9,552.4	9,347.0	42.6	16.5	155.67	-107.8	1,312.9	779.1	718.0	61.10	12.751	
9,654.0	9,400.0	9,607.2	9,401.8	42.7	16.5	-123.82	-108.8	1,313.6	779.3	718.1	61.18	12.738	
9,688.9	9,434.9	9,640.4	9,434.9	42.7	16.5	-123.89	-109.5	1,314.2	779.2	718.1	61.15	12.744	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 709H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 SDI_KPR_WL_NS-CT, 166-r.5 MWD+IFR1+SAG+FDIR, 10875-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
9,700.0	9,446.0	9,649.9	9,444.4	42.7	16.5	-123.90	-109.7	1,314.3	779.2	718.1	61.12	12.749	
9,800.0	9,546.0	9,732.8	9,527.3	42.7	16.5	-123.92	-110.5	1,313.8	780.3	719.5	60.87	12.820	
9,900.0	9,646.0	9,817.2	9,611.6	42.7	16.4	-123.81	-110.8	1,310.5	783.7	723.1	60.64	12.925	
10,000.0	9,746.0	9,917.1	9,711.5	42.7	16.3	-123.70	-112.0	1,305.9	788.2	727.6	60.65	12.997	
10,076.5	9,822.5	9,995.7	9,790.0	42.7	16.2	-123.59	-112.7	1,302.3	791.5	730.8	60.68	13.044	
10,100.0	9,846.0	10,030.2	9,824.4	42.8	16.1	-123.29	-113.1	1,301.2	792.6	731.7	60.86	13.024	
10,125.0	9,870.9	10,054.8	9,849.0	42.8	16.1	-123.23	-113.4	1,300.6	794.3	733.5	60.87	13.048	
10,150.0	9,895.7	10,079.3	9,873.5	42.8	16.1	-123.16	-113.6	1,300.0	796.8	735.9	60.88	13.087	
10,175.0	9,920.3	10,103.5	9,897.7	42.8	16.1	-123.08	-113.8	1,299.3	800.0	739.1	60.87	13.141	
10,200.0	9,944.6	10,126.9	9,921.1	42.8	16.0	-123.00	-114.1	1,298.6	803.9	743.0	60.84	13.212	
10,225.0	9,968.6	10,149.8	9,944.0	42.9	16.0	-122.90	-114.3	1,298.0	808.6	747.8	60.80	13.300	
10,250.0	9,992.2	10,172.2	9,966.4	42.9	16.0	-122.78	-114.7	1,297.4	814.0	753.3	60.73	13.404	
10,275.0	10,015.3	10,206.7	10,000.9	42.9	15.9	-122.95	-115.3	1,296.7	820.1	759.3	60.82	13.485	
10,300.0	10,037.9	10,229.4	10,023.5	42.9	15.9	-122.86	-115.8	1,296.6	826.8	766.1	60.74	13.613	
10,325.0	10,059.9	10,249.7	10,043.8	43.0	15.9	-122.67	-116.2	1,296.4	834.3	773.7	60.61	13.765	
10,350.0	10,081.3	10,268.6	10,062.7	43.0	15.9	-122.39	-116.6	1,296.2	842.6	782.2	60.46	13.937	
10,375.0	10,101.9	10,287.0	10,081.2	43.0	15.9	-122.04	-117.0	1,296.0	851.8	791.5	60.29	14.127	
10,400.0	10,121.8	10,304.2	10,098.4	43.1	15.9	-121.58	-117.3	1,295.7	861.8	801.7	60.11	14.338	
10,425.0	10,140.9	10,320.5	10,114.7	43.1	15.9	-121.01	-117.7	1,295.4	872.7	812.8	59.90	14.568	
10,450.0	10,159.1	10,336.4	10,130.5	43.1	15.9	-120.33	-118.1	1,295.1	884.4	824.7	59.69	14.815	
10,475.0	10,176.3	10,351.7	10,145.8	43.1	15.8	-119.55	-118.4	1,294.7	896.9	837.4	59.47	15.080	
10,500.0	10,192.6	10,367.0	10,161.1	43.2	15.8	-118.65	-118.7	1,294.3	910.2	850.9	59.25	15.361	
10,525.0	10,207.9	10,382.8	10,176.9	43.2	15.8	-117.69	-119.0	1,293.9	924.2	865.2	59.04	15.654	
10,550.0	10,222.1	10,399.5	10,193.5	43.2	15.8	-116.66	-119.4	1,293.4	939.0	880.1	58.84	15.957	
10,575.0	10,235.2	10,415.9	10,209.9	43.3	15.8	-115.51	-119.6	1,293.0	954.4	895.7	58.65	16.274	
10,600.0	10,247.2	10,431.5	10,225.5	43.3	15.8	-114.20	-119.9	1,292.7	970.4	912.0	58.44	16.605	
10,625.0	10,258.1	10,445.6	10,239.7	43.3	15.8	-112.66	-120.0	1,292.5	987.0	928.8	58.22	16.954	

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Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 3.0 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	53.2	0.2	0.0	3.0	179.90	-150.0	0.3	150.0	145.3	4.67	32.088	
100.0	100.0	153.5	100.5	1.2	3.0	179.73	-149.7	0.7	149.8	144.7	5.04	29.719	
200.0	200.0	253.6	200.6	1.7	3.1	179.42	-149.3	1.5	149.3	143.9	5.40	27.655	
300.0	300.0	353.4	300.4	2.1	3.1	179.08	-149.0	2.4	149.0	143.3	5.75	25.910	
400.0	400.0	453.3	400.3	2.4	3.2	178.73	-148.7	3.3	148.8	142.7	6.08	24.451	
448.4	448.4	501.4	448.4	2.6	3.2	178.51	-148.7	3.9	148.7	142.5	6.24	23.842 CC, ES	
500.0	500.0	551.4	498.4	2.7	3.3	178.25	-149.0	4.5	149.1	142.7	6.40	23.296	
600.0	600.0	650.7	597.7	3.0	3.3	177.62	-150.4	6.3	150.6	143.9	6.70	22.457	
700.0	700.0	750.4	697.3	3.2	3.4	176.93	-151.9	8.1	152.2	145.2	7.00	21.744	
800.0	800.0	850.8	797.7	3.5	3.5	176.71	-153.5	8.8	153.7	146.4	7.28	21.106	
900.0	900.0	953.4	900.3	3.7	3.5	176.97	-153.8	8.1	154.0	146.5	7.55	20.413	
1,000.0	1,000.0	1,053.3	1,000.2	3.9	3.5	177.32	-153.6	7.2	153.8	146.0	7.80	19.726	
1,016.8	1,016.8	1,070.0	1,016.9	4.0	3.5	96.80	-153.6	7.0	153.8	145.9	7.84	19.623	
1,100.0	1,100.0	1,153.1	1,100.0	4.2	3.6	97.72	-153.6	6.2	154.0	145.9	8.04	19.154	
1,200.0	1,199.8	1,252.9	1,199.8	4.5	3.6	100.00	-153.6	5.2	154.8	146.5	8.27	18.708	
1,300.0	1,299.5	1,352.1	1,299.0	4.9	3.6	103.43	-153.7	4.3	156.7	148.2	8.52	18.396	
1,400.0	1,398.7	1,451.4	1,398.2	5.2	3.7	107.93	-153.9	3.2	160.3	151.5	8.79	18.246	
1,500.0	1,497.5	1,549.9	1,496.8	5.5	3.7	113.25	-154.0	2.1	166.2	157.1	9.10	18.274	
1,600.0	1,595.6	1,647.8	1,594.7	5.9	3.8	119.13	-154.1	0.9	175.3	165.8	9.47	18.504	
1,700.0	1,693.1	1,745.4	1,692.3	6.3	3.8	125.19	-154.1	-0.4	188.0	178.1	9.93	18.942	
1,767.5	1,758.3	1,810.8	1,757.6	6.5	3.9	129.22	-154.0	-1.2	198.9	188.6	10.22	19.455	
1,800.0	1,789.7	1,842.6	1,789.5	6.6	3.9	131.12	-153.9	-1.4	204.6	194.2	10.35	19.757	
1,900.0	1,886.1	1,941.3	1,888.2	6.9	3.9	136.07	-154.3	-0.7	223.1	212.3	10.87	20.530	
2,000.0	1,982.6	2,046.8	1,993.6	7.3	4.0	139.88	-154.4	3.8	240.5	229.1	11.38	21.126	
2,100.0	2,079.0	2,152.7	2,099.1	7.7	4.0	142.64	-153.6	12.4	255.4	243.5	11.91	21.451	
2,200.0	2,175.4	2,258.1	2,203.7	8.1	4.0	144.54	-152.2	25.1	267.6	255.2	12.43	21.528	
2,300.0	2,271.9	2,360.2	2,304.6	8.5	4.1	145.67	-151.6	40.3	278.4	265.4	12.96	21.478	
2,400.0	2,368.3	2,459.5	2,402.4	8.9	4.2	146.10	-152.8	57.6	288.7	275.2	13.49	21.401	
2,500.0	2,464.7	2,561.4	2,502.2	9.3	4.2	145.95	-155.9	77.5	298.6	284.6	14.01	21.315	
2,600.0	2,561.2	2,663.9	2,602.1	9.8	4.3	145.25	-160.4	100.3	307.5	293.0	14.52	21.180	
2,700.0	2,657.6	2,768.8	2,703.5	10.2	4.4	144.01	-166.5	126.4	315.6	300.6	15.01	21.026	
2,800.0	2,754.0	2,877.9	2,808.0	10.6	4.6	142.32	-173.0	157.0	321.6	306.1	15.47	20.789	
2,900.0	2,850.5	2,984.4	2,909.1	11.1	4.7	140.35	-178.8	190.2	325.3	309.4	15.91	20.441	
3,000.0	2,946.9	3,085.8	3,004.4	11.5	4.8	138.11	-184.7	224.4	327.9	311.5	16.34	20.069	
3,100.0	3,043.3	3,182.4	3,094.7	12.0	5.0	135.79	-190.9	258.0	330.8	314.0	16.75	19.750	
3,200.0	3,139.8	3,279.2	3,185.6	12.5	5.1	133.63	-197.3	290.7	334.9	317.8	17.16	19.524	
3,300.0	3,236.2	3,376.5	3,277.2	12.9	5.3	131.64	-203.8	322.7	340.2	322.6	17.56	19.370	
3,400.0	3,332.6	3,473.2	3,368.6	13.4	5.5	129.85	-210.4	353.7	346.4	328.4	17.97	19.276	
3,500.0	3,429.1	3,571.2	3,461.4	13.9	5.6	128.18	-217.3	384.3	353.6	335.2	18.38	19.236	
3,600.0	3,525.5	3,677.7	3,562.4	14.3	5.9	126.54	-223.7	417.5	360.2	341.4	18.80	19.160	
3,700.0	3,621.9	3,778.2	3,657.8	14.8	6.1	125.15	-228.6	448.7	366.1	346.9	19.23	19.043	
3,800.0	3,718.4	3,887.1	3,761.6	15.3	6.3	123.97	-231.9	481.6	371.0	351.3	19.68	18.854	
3,900.0	3,814.8	4,000.8	3,869.6	15.7	6.5	122.95	-230.3	516.9	371.4	351.3	20.13	18.449	
4,000.0	3,911.2	4,104.7	3,968.2	16.2	6.8	122.00	-227.4	549.7	370.5	349.9	20.59	17.996	
4,100.0	4,007.7	4,207.1	4,064.9	16.7	7.0	120.96	-223.8	583.1	368.7	347.7	21.03	17.531	
4,200.0	4,104.1	4,306.4	4,158.7	17.2	7.2	119.96	-220.1	615.4	366.8	345.4	21.48	17.078	
4,300.0	4,200.5	4,407.1	4,254.1	17.7	7.4	119.04	-216.2	647.6	365.1	343.2	21.93	16.648	
4,400.0	4,297.0	4,509.8	4,351.1	18.1	7.7	118.02	-211.8	680.9	362.9	340.5	22.37	16.225	
4,500.0	4,393.4	4,611.7	4,447.2	18.6	7.9	116.96	-206.7	714.5	360.0	337.2	22.79	15.795	
4,600.0	4,489.8	4,707.1	4,537.3	19.1	8.2	116.01	-202.0	745.5	357.4	334.2	23.23	15.383	
4,638.0	4,526.5	4,739.0	4,567.5	19.3	8.2	115.70	-200.9	755.7	357.0	333.6	23.41	15.252	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	Warning
4,700.0	4,586.3	4,793.8	4,619.5	19.6	8.4	115.15	-200.2	773.0	357.9	334.2	23.68	15.116	
4,800.0	4,682.7	4,891.4	4,712.4	20.1	8.6	114.29	-199.8	802.8	360.4	336.3	24.11	14.946	
4,900.0	4,779.1	4,991.0	4,807.5	20.6	8.8	113.56	-199.4	832.5	363.2	338.6	24.56	14.787	
5,000.0	4,875.6	5,092.2	4,904.3	21.0	9.1	112.92	-198.7	862.0	365.9	340.9	25.02	14.625	
5,100.0	4,972.0	5,192.6	5,000.2	21.5	9.3	112.29	-197.7	891.5	368.4	342.9	25.48	14.459	
5,200.0	5,068.4	5,293.8	5,097.0	22.0	9.5	111.64	-196.6	921.4	370.7	344.8	25.94	14.293	
5,300.0	5,164.9	5,393.3	5,192.0	22.5	9.8	111.01	-195.3	950.8	372.9	346.5	26.39	14.131	
5,400.0	5,261.3	5,495.2	5,289.3	23.0	10.0	110.37	-193.8	981.0	375.0	348.2	26.85	13.969	
5,500.0	5,357.7	5,596.5	5,385.9	23.5	10.2	109.68	-191.8	1,011.4	376.6	349.3	27.29	13.798	
5,600.0	5,454.2	5,695.1	5,480.1	24.0	10.5	109.12	-189.9	1,040.4	378.3	350.5	27.75	13.632	
5,700.0	5,550.6	5,795.5	5,576.4	24.5	10.7	108.70	-187.9	1,068.9	380.2	351.9	28.23	13.468	
5,800.0	5,647.0	5,898.2	5,674.6	25.0	11.0	108.19	-185.4	1,098.7	381.6	352.9	28.69	13.300	
5,900.0	5,743.4	5,998.1	5,769.7	25.5	11.2	107.48	-182.9	1,129.2	382.7	353.6	29.13	13.138	
6,000.0	5,839.9	6,098.5	5,865.0	25.9	11.5	106.63	-180.5	1,160.6	383.8	354.3	29.55	12.988	
6,100.0	5,936.3	6,198.4	5,959.5	26.4	11.7	105.64	-178.1	1,192.9	384.9	355.0	29.96	12.849	
6,200.0	6,032.7	6,297.3	6,052.9	26.9	12.0	104.57	-175.8	1,225.5	386.2	355.9	30.36	12.723	
6,300.0	6,129.2	6,395.6	6,145.9	27.4	12.3	103.57	-173.9	1,257.5	388.0	357.2	30.76	12.612	
6,400.0	6,225.6	6,494.0	6,239.3	27.9	12.5	102.74	-172.2	1,288.4	390.2	359.0	31.19	12.510	
6,500.0	6,322.0	6,593.0	6,333.7	28.4	12.8	102.17	-170.7	1,317.9	392.7	361.1	31.64	12.413	
6,600.0	6,418.5	6,692.7	6,429.1	28.9	13.0	101.72	-169.2	1,346.8	395.5	363.4	32.11	12.318	
6,700.0	6,514.9	6,791.3	6,522.8	29.4	13.3	100.97	-167.7	1,377.4	398.1	365.6	32.54	12.233	
6,800.0	6,611.3	6,888.0	6,615.0	29.9	13.5	100.36	-167.2	1,406.7	401.8	368.8	32.99	12.178	
6,900.0	6,707.8	6,986.3	6,709.1	30.4	13.7	99.94	-167.2	1,435.2	406.0	372.5	33.46	12.134	
7,000.0	6,804.2	7,086.1	6,804.8	30.9	14.0	99.65	-167.4	1,463.1	410.5	376.5	33.94	12.094	
7,100.0	6,900.6	7,176.7	6,891.1	31.4	14.2	99.08	-168.3	1,490.7	415.8	381.5	34.37	12.099	
7,200.0	6,997.1	7,275.3	6,985.0	31.9	14.5	98.46	-170.9	1,520.9	422.9	388.0	34.82	12.143	
7,300.0	7,093.5	7,388.0	7,091.7	32.4	14.8	97.52	-172.5	1,557.1	428.7	393.4	35.31	12.140	
7,400.0	7,189.9	7,506.2	7,203.3	32.9	15.1	96.44	-169.6	1,595.8	430.9	395.1	35.79	12.040	
7,424.1	7,213.2	7,529.8	7,225.6	33.0	15.2	96.25	-168.5	1,603.4	430.9	395.0	35.90	12.003	
7,500.0	7,286.4	7,603.9	7,295.8	33.4	15.4	95.65	-165.2	1,627.1	431.1	394.8	36.25	11.892	
7,600.0	7,382.8	7,702.1	7,388.8	33.9	15.6	94.89	-161.3	1,658.2	431.7	395.0	36.71	11.759	
7,700.0	7,479.2	7,803.1	7,484.8	34.4	15.9	94.21	-157.4	1,689.5	432.6	395.4	37.19	11.633	
7,800.0	7,575.7	7,911.0	7,587.9	34.9	16.2	93.75	-152.0	1,721.0	432.2	394.5	37.69	11.469	
7,900.0	7,672.1	8,010.7	7,683.6	35.4	16.4	93.61	-146.5	1,747.9	431.1	392.9	38.18	11.291	
8,000.0	7,768.5	8,113.0	7,782.9	35.9	16.6	93.93	-141.0	1,772.2	429.8	391.1	38.69	11.110	
8,100.0	7,865.0	8,213.3	7,881.2	36.4	16.8	94.92	-135.5	1,791.0	428.1	388.8	39.23	10.912	
8,119.1	7,883.4	8,232.0	7,899.7	36.4	16.8	95.16	-134.5	1,794.1	427.8	388.4	39.33	10.876	
8,200.0	7,961.6	8,311.1	7,977.6	36.8	16.9	96.19	-130.7	1,806.6	426.7	386.9	39.79	10.725	
8,300.0	8,058.6	8,407.4	8,072.9	37.3	17.1	97.44	-126.6	1,820.5	426.0	385.7	40.34	10.560	
8,400.0	8,156.0	8,505.6	8,170.4	37.8	17.2	98.90	-122.9	1,831.6	425.7	384.8	40.92	10.404	
8,404.4	8,160.3	8,509.7	8,174.5	37.8	17.2	98.97	-122.7	1,832.0	425.7	384.8	40.95	10.397	
8,500.0	8,253.8	8,597.4	8,261.7	38.3	17.3	100.37	-120.6	1,839.7	426.7	385.2	41.48	10.286	
8,600.0	8,351.9	8,692.9	8,356.9	38.8	17.4	101.74	-119.5	1,847.7	429.0	387.0	42.04	10.205	
8,700.0	8,450.4	8,790.0	8,453.8	39.2	17.5	103.07	-119.0	1,854.5	431.9	389.3	42.59	10.139	
8,800.0	8,549.2	8,889.2	8,552.7	39.7	17.6	103.98	-118.6	1,863.2	434.5	391.5	43.08	10.087	
8,900.0	8,648.2	8,991.1	8,654.0	40.1	17.7	104.44	-118.6	1,873.7	437.1	393.6	43.49	10.051	
9,000.0	8,747.4	9,086.2	8,748.3	40.5	17.9	104.37	-118.9	1,885.7	439.4	395.7	43.72	10.050	
9,100.0	8,846.9	9,184.3	8,845.7	40.9	18.0	104.19	-120.0	1,897.2	442.2	398.2	43.93	10.065	
9,200.0	8,946.5	9,291.9	8,952.7	41.3	18.1	103.95	-120.5	1,908.3	443.9	399.7	44.17	10.049	
9,300.0	9,046.2	9,396.1	9,056.6	41.7	18.2	103.81	-119.1	1,916.6	443.6	399.3	44.39	9.994	
9,400.0	9,146.1	9,492.5	9,152.9	42.0	18.3	104.11	-117.5	1,919.4	443.0	398.4	44.61	9.931	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 3.0 usft
Reference													
Offset													
Semi Major Axis													
Offset Wellbore Centre													
Distance													
Between Centres													
Between Ellipses													
No-Go Distance													
Separation Factor													
Warning													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
9,500.0	9,246.0	9,594.6	9,255.0	42.3	18.4	104.55	-115.6	1,919.6	442.1	397.2	44.88	9.850	
9,600.0	9,346.0	9,692.2	9,352.6	42.6	18.4	104.81	-113.8	1,919.4	440.7	395.6	45.05	9.783	
9,654.0	9,400.0	9,746.2	9,406.6	42.7	18.5	-174.54	-113.0	1,919.2	440.0	394.9	45.10	9.755	
9,700.0	9,446.0	9,793.0	9,453.3	42.7	18.5	-174.51	-112.2	1,919.1	439.2	394.1	45.14	9.731	
9,800.0	9,546.0	9,892.8	9,553.2	42.7	18.5	-174.46	-110.5	1,918.9	437.6	392.3	45.22	9.676	
9,900.0	9,646.0	9,994.6	9,654.9	42.7	18.6	-174.39	-108.7	1,918.5	435.7	390.4	45.33	9.613	
10,000.0	9,746.0	10,088.9	9,749.2	42.7	18.6	-174.14	-107.1	1,916.8	434.3	388.9	45.38	9.570	
10,076.5	9,822.5	10,164.4	9,824.7	42.7	18.5	-173.85	-106.5	1,914.6	433.9	388.4	45.47	9.543	
10,079.0	9,825.0	10,167.0	9,827.2	42.7	18.5	-173.62	-106.5	1,914.5	433.9	388.4	45.47	9.542	
10,100.0	9,846.0	10,188.3	9,848.5	42.8	18.5	-173.53	-106.3	1,913.8	434.4	388.8	45.52	9.542	
10,125.0	9,870.9	10,213.5	9,873.8	42.8	18.5	-173.43	-106.0	1,913.1	436.1	390.5	45.59	9.564	
10,150.0	9,895.7	10,238.7	9,898.9	42.8	18.5	-173.33	-105.8	1,912.3	439.1	393.4	45.67	9.614	
10,175.0	9,920.3	10,263.6	9,923.8	42.8	18.5	-173.24	-105.5	1,911.5	443.3	397.6	45.75	9.691	
10,200.0	9,944.6	10,288.3	9,948.5	42.8	18.5	-173.14	-105.2	1,910.8	448.8	403.0	45.82	9.796	
10,225.0	9,968.6	10,312.6	9,972.8	42.9	18.5	-173.05	-104.9	1,910.1	455.6	409.7	45.89	9.928	
10,250.0	9,992.2	10,336.4	9,996.6	42.9	18.5	-172.95	-104.6	1,909.3	463.6	417.6	45.96	10.088	
10,275.0	10,015.3	10,359.6	10,019.7	42.9	18.5	-172.86	-104.3	1,908.7	472.8	426.8	46.02	10.275	
10,300.0	10,037.9	10,381.8	10,042.0	42.9	18.5	-172.76	-104.0	1,908.1	483.2	437.2	46.07	10.490	
10,325.0	10,059.9	10,403.1	10,063.3	43.0	18.4	-172.65	-103.8	1,907.5	494.9	448.7	46.11	10.732	
10,350.0	10,081.3	10,423.2	10,083.4	43.0	18.4	-172.52	-103.7	1,906.9	507.7	461.5	46.14	11.003	
10,375.0	10,101.9	10,442.8	10,102.9	43.0	18.4	-172.38	-103.5	1,906.4	521.6	475.4	46.17	11.298	
10,400.0	10,121.8	10,461.6	10,121.8	43.1	18.4	-172.22	-103.5	1,905.9	536.7	490.5	46.19	11.618	
10,425.0	10,140.9	10,480.0	10,140.1	43.1	18.4	-172.03	-103.4	1,905.5	552.8	506.5	46.22	11.960	
10,450.0	10,159.1	10,497.7	10,157.8	43.1	18.4	-171.81	-103.4	1,905.0	569.8	523.6	46.24	12.323	
10,475.0	10,176.3	10,514.6	10,174.8	43.1	18.4	-171.55	-103.4	1,904.6	587.9	541.6	46.27	12.707	
10,500.0	10,192.6	10,530.7	10,190.8	43.2	18.4	-171.24	-103.4	1,904.2	606.8	560.5	46.29	13.110	
10,525.0	10,207.9	10,545.9	10,205.9	43.2	18.4	-170.86	-103.5	1,903.8	626.5	580.2	46.30	13.531	
10,550.0	10,222.1	10,560.0	10,220.1	43.2	18.4	-170.40	-103.5	1,903.4	647.0	600.7	46.32	13.970	
10,575.0	10,235.2	10,573.2	10,233.3	43.3	18.4	-169.83	-103.5	1,903.0	668.3	621.9	46.33	14.424	
10,600.0	10,247.2	10,585.5	10,245.5	43.3	18.4	-169.11	-103.5	1,902.6	690.1	643.8	46.34	14.893	
10,625.0	10,258.1	10,596.6	10,256.6	43.3	18.4	-168.20	-103.5	1,902.2	712.6	666.3	46.35	15.375	
10,650.0	10,267.7	10,606.4	10,266.5	43.3	18.4	-167.02	-103.5	1,901.9	735.6	689.3	46.35	15.870	
10,675.0	10,276.1	10,615.1	10,275.1	43.4	18.3	-165.43	-103.4	1,901.6	759.1	712.7	46.35	16.377	
10,700.0	10,283.3	10,622.4	10,282.5	43.4	18.3	-163.22	-103.4	1,901.3	783.0	736.6	46.34	16.894	
10,725.0	10,289.2	10,628.5	10,288.5	43.4	18.3	-159.98	-103.4	1,901.1	807.2	760.9	46.33	17.421	
10,750.0	10,293.8	10,633.2	10,293.3	43.4	18.3	-154.87	-103.4	1,900.9	831.7	785.4	46.32	17.956	
10,775.0	10,297.2	10,636.6	10,296.7	43.5	18.3	-145.89	-103.4	1,900.8	856.4	810.1	46.30	18.497	
10,800.0	10,299.2	12,070.3	11,166.5	43.5	19.0	-177.94	739.6	1,928.3	868.6	820.1	48.44	17.930	
10,806.4	10,299.5	12,076.3	11,166.7	43.5	19.0	-177.96	745.6	1,928.5	868.5	820.0	48.47	17.918	
10,826.5	10,300.0	12,122.4	11,168.0	43.5	19.2	-178.00	791.7	1,928.9	868.6	820.1	48.49	17.912	
10,900.0	10,300.0	12,201.5	11,168.7	43.6	19.4	-177.97	870.8	1,928.3	869.3	820.4	48.88	17.786	
11,000.0	10,300.0	12,321.7	11,167.7	43.7	19.9	-177.92	991.0	1,927.0	868.5	819.1	49.41	17.578	
11,100.0	10,300.0	12,407.1	11,166.6	43.8	20.2	-177.94	1,076.3	1,927.1	867.2	817.1	50.02	17.336	
11,106.7	10,300.0	12,413.2	11,166.6	43.8	20.3	-177.95	1,082.5	1,927.2	867.2	817.1	50.06	17.322	
11,200.0	10,300.0	12,499.1	11,167.0	44.0	20.6	-178.01	1,168.3	1,927.8	867.6	817.0	50.62	17.139	
11,300.0	10,300.0	12,593.0	11,168.0	44.2	21.1	-177.95	1,262.2	1,926.5	868.6	817.4	51.30	16.933	
11,400.0	10,300.0	12,677.9	11,170.1	44.4	21.5	-177.76	1,347.0	1,923.2	871.3	819.2	52.08	16.729	
11,500.0	10,300.0	12,822.4	11,170.9	44.6	22.2	-177.41	1,491.4	1,917.3	872.0	819.1	52.86	16.497	
11,600.0	10,300.0	12,928.7	11,168.3	44.8	22.8	-177.40	1,597.6	1,916.7	869.5	815.9	53.56	16.233	
11,700.0	10,300.0	13,028.6	11,165.7	45.1	23.3	-177.36	1,697.4	1,915.9	866.9	812.6	54.31	15.962	
11,800.0	10,300.0	13,116.8	11,165.0	45.4	23.8	-177.52	1,785.6	1,918.1	865.9	810.9	55.00	15.744	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP													Offset Site Error: 0.0 usft	
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR				Offset		Rule Assigned:			Offset Well Error: 3.0 usft					
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
11,875.6	10,300.0	13,182.5	11,164.2	45.6	24.2	-177.64	1,851.3	1,919.7	865.0	809.5	55.53	15.578		
11,900.0	10,300.0	13,192.6	11,164.4	45.7	24.3	-177.67	1,861.4	1,920.0	865.2	809.5	55.72	15.529		
12,000.0	10,300.0	13,304.5	11,166.1	46.0	25.0	-178.00	1,973.2	1,924.5	866.6	810.3	56.31	15.389		
12,100.0	10,300.0	13,419.0	11,165.2	46.3	25.7	-178.25	2,087.6	1,927.8	865.8	808.8	56.96	15.201		
12,129.2	10,300.0	13,436.4	11,165.1	46.4	25.8	-178.27	2,105.0	1,928.1	865.5	808.3	57.19	15.133		
12,200.0	10,300.0	13,489.8	11,165.9	46.7	26.1	-178.20	2,158.4	1,926.8	866.6	808.7	57.82	14.987		
12,300.0	10,300.0	13,633.9	11,163.9	47.1	27.0	-178.00	2,302.4	1,923.3	864.8	806.1	58.73	14.727		
12,340.0	10,300.0	13,647.3	11,163.6	47.2	27.1	-177.97	2,315.8	1,922.8	864.2	805.1	59.11	14.620		
12,400.0	10,300.0	13,693.4	11,164.0	47.5	27.4	-177.82	2,361.8	1,920.3	864.8	805.1	59.72	14.482		
12,500.0	10,300.0	13,762.6	11,165.8	47.9	27.9	-177.61	2,430.9	1,916.9	867.8	807.1	60.69	14.297		
12,600.0	10,300.0	13,870.1	11,170.5	48.3	28.6	-177.27	2,538.2	1,911.2	872.3	810.5	61.79	14.118		
12,700.0	10,300.0	13,990.8	11,174.2	48.8	29.4	-177.10	2,658.7	1,907.9	875.5	812.7	62.80	13.941		
12,800.0	10,300.0	14,098.3	11,175.6	49.3	30.1	-177.09	2,766.3	1,907.2	876.8	813.1	63.72	13.760		
12,900.0	10,300.0	14,192.4	11,177.0	49.7	30.8	-176.97	2,860.3	1,904.9	878.4	813.7	64.72	13.572		
13,000.0	10,300.0	14,313.8	11,177.3	50.2	31.6	-176.74	2,981.6	1,901.0	878.8	813.0	65.80	13.355		
13,100.0	10,300.0	14,409.8	11,176.8	50.8	32.3	-176.70	3,077.6	1,900.1	878.3	811.6	66.78	13.153		
13,113.9	10,300.0	14,421.8	11,176.8	50.8	32.4	-176.71	3,089.6	1,900.1	878.3	811.4	66.91	13.128		
13,200.0	10,300.0	14,503.0	11,177.2	51.3	33.0	-176.66	3,170.8	1,898.9	878.7	810.9	67.76	12.967		
13,297.5	10,300.0	14,605.4	11,177.1	51.8	33.7	-176.65	3,273.2	1,898.4	878.6	809.9	68.71	12.787		
13,300.0	10,300.0	14,607.6	11,177.1	51.8	33.8	-176.65	3,275.4	1,898.4	878.6	809.9	68.74	12.782		
13,400.0	10,300.0	14,713.3	11,177.1	52.4	34.5	-176.59	3,381.1	1,897.0	878.7	809.0	69.76	12.596		
13,500.0	10,300.0	14,835.7	11,175.1	53.0	35.4	-176.77	3,503.5	1,899.6	877.0	806.3	70.62	12.419		
13,600.0	10,300.0	14,935.9	11,172.0	53.5	36.2	-176.87	3,603.5	1,900.8	873.8	802.2	71.55	12.213		
13,700.0	10,300.0	15,018.0	11,169.5	54.1	36.8	-176.96	3,685.6	1,902.0	870.8	798.3	72.49	12.014		
13,716.4	10,300.0	15,024.5	11,169.5	54.2	36.9	-176.98	3,692.1	1,902.4	870.7	798.1	72.63	11.989		
13,800.0	10,300.0	15,100.1	11,170.4	54.8	37.4	-177.33	3,767.5	1,907.2	871.4	798.2	73.23	11.899		
13,900.0	10,300.0	15,228.5	11,170.2	55.4	38.4	-177.67	3,895.8	1,912.1	871.2	797.2	74.02	11.769		
14,000.0	10,300.0	15,319.4	11,167.4	56.0	39.1	-177.82	3,986.7	1,914.0	868.1	793.2	74.94	11.584		
14,047.2	10,300.0	15,355.8	11,167.2	56.3	39.4	-177.94	4,023.0	1,915.7	867.8	792.4	75.34	11.519		
14,100.0	10,300.0	15,379.6	11,167.4	56.6	39.6	-178.02	4,046.7	1,916.8	868.4	792.7	75.77	11.461		
14,200.0	10,300.0	15,443.1	11,171.9	57.3	40.1	-178.21	4,110.0	1,919.4	874.8	798.2	76.54	11.430		
14,300.0	10,300.0	15,554.2	11,179.2	57.9	40.9	-178.40	4,220.9	1,921.6	881.3	803.8	77.50	11.372		
14,400.0	10,300.0	15,727.5	11,179.1	58.6	42.3	-178.42	4,394.0	1,921.3	879.7	801.0	78.69	11.179		
14,443.3	10,300.0	15,752.5	11,178.8	58.9	42.5	-178.43	4,419.1	1,921.4	879.2	800.1	79.12	11.111		
14,500.0	10,300.0	15,770.0	11,179.2	59.3	42.6	-178.43	4,436.5	1,921.3	880.4	800.8	79.63	11.057		
14,600.0	10,300.0	15,888.1	11,185.4	60.0	43.5	-178.28	4,554.4	1,918.3	886.1	805.2	80.86	10.958		
14,700.0	10,300.0	16,012.6	11,186.1	60.7	44.5	-178.06	4,678.8	1,914.3	886.7	804.5	82.14	10.795		
14,800.0	10,300.0	16,117.6	11,185.3	61.4	45.3	-178.08	4,783.8	1,914.3	885.9	802.7	83.20	10.648		
14,900.0	10,300.0	16,212.8	11,184.6	62.1	46.1	-178.08	4,879.0	1,914.0	885.1	800.9	84.27	10.504		
14,942.0	10,300.0	16,251.5	11,184.5	62.4	46.4	-178.04	4,917.7	1,913.2	885.1	800.3	84.75	10.443		
15,000.0	10,300.0	16,303.1	11,184.7	62.8	46.8	-177.97	4,969.3	1,912.0	885.3	799.9	85.42	10.364		
15,100.0	10,300.0	16,419.4	11,184.7	63.5	47.7	-178.12	5,085.5	1,913.9	885.2	798.8	86.41	10.244		
15,200.0	10,300.0	16,518.5	11,183.5	64.2	48.5	-178.18	5,184.7	1,914.5	884.0	796.6	87.46	10.108		
15,300.0	10,300.0	16,613.5	11,182.8	65.0	49.3	-178.12	5,279.6	1,913.1	883.3	794.7	88.60	9.969		
15,400.0	10,300.0	16,735.2	11,179.8	65.7	50.3	-178.14	5,401.2	1,913.0	880.6	790.9	89.70	9.817		
15,499.5	10,300.0	16,809.4	11,177.7	66.5	50.9	-178.45	5,475.3	1,917.6	878.1	787.5	90.54	9.698		
15,500.0	10,300.0	16,809.6	11,177.7	66.5	50.9	-178.45	5,475.5	1,917.6	878.1	787.5	90.55	9.697		
15,600.0	10,300.0	16,893.2	11,178.9	67.2	51.5	-178.77	5,558.9	1,922.2	879.3	787.9	91.38	9.623		
15,700.0	10,300.0	17,002.7	11,180.7	68.0	52.4	-179.11	5,668.3	1,927.0	880.8	788.6	92.26	9.547		
15,800.0	10,300.0	17,079.1	11,182.6	68.7	53.0	-179.08	5,744.7	1,926.2	883.3	790.0	93.32	9.465		
15,900.0	10,300.0	17,231.4	11,183.5	69.5	54.3	-178.97	5,896.9	1,923.9	883.9	789.3	94.64	9.340		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	3.0 usft
Reference												Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
16,000.0	10,300.0	17,341.9	11,179.8	70.3	55.2	-178.93	6,007.3	1,922.8	880.6	784.8	95.80	9.192	
16,100.0	10,300.0	17,443.3	11,176.1	71.1	56.0	-178.81	6,108.6	1,920.8	876.9	779.9	97.00	9.040	
16,200.0	10,300.0	17,513.7	11,174.3	71.8	56.6	-178.72	6,179.0	1,919.2	874.5	776.3	98.19	8.907	
16,213.9	10,300.0	17,524.3	11,174.2	71.9	56.7	-178.70	6,189.6	1,918.8	874.5	776.1	98.36	8.891	
16,300.0	10,300.0	17,572.6	11,175.5	72.6	57.1	-178.57	6,237.8	1,916.6	876.6	777.3	99.29	8.829	
16,400.0	10,300.0	17,691.0	11,179.6	73.4	58.0	-178.21	6,356.0	1,910.5	880.2	779.4	100.79	8.733	
16,500.0	10,300.0	17,789.1	11,181.0	74.2	58.8	-177.86	6,453.9	1,904.6	881.9	779.7	102.20	8.629	
16,600.0	10,300.0	17,915.1	11,183.5	75.0	59.8	-177.14	6,579.3	1,893.0	884.7	780.7	104.00	8.506	
16,700.0	10,300.0	18,030.8	11,179.8	75.8	60.8	-177.12	6,694.9	1,892.5	881.1	775.9	105.18	8.377	
16,734.0	10,300.0	18,046.1	11,179.7	76.1	60.9	-177.12	6,710.2	1,892.4	880.8	775.2	105.55	8.345	
16,800.0	10,300.0	18,111.0	11,179.8	76.6	61.5	-177.11	6,775.1	1,891.9	880.9	774.6	106.32	8.286	
16,900.0	10,300.0	18,214.1	11,179.6	77.4	62.3	-177.00	6,878.2	1,889.8	880.8	773.2	107.57	8.188	
16,989.6	10,300.0	18,301.2	11,178.6	78.2	63.0	-176.86	6,965.3	1,887.4	879.9	771.2	108.71	8.094	
17,000.0	10,300.0	18,307.0	11,178.6	78.3	63.1	-176.86	6,971.1	1,887.4	880.0	771.1	108.82	8.087	
17,100.0	10,300.0	18,414.2	11,179.5	79.1	64.0	-177.04	7,078.2	1,889.7	880.7	770.8	109.86	8.017	
17,200.0	10,300.0	18,534.5	11,177.9	79.9	65.0	-177.17	7,198.5	1,891.3	879.2	768.3	110.94	7.926	
17,283.5	10,300.0	18,595.2	11,176.4	80.6	65.5	-177.23	7,259.1	1,892.1	877.5	765.6	111.82	7.847	
17,300.0	10,300.0	18,608.3	11,176.5	80.7	65.6	-177.25	7,272.2	1,892.3	877.5	765.5	111.99	7.835	
17,400.0	10,300.0	18,706.0	11,176.7	81.6	66.4	-177.34	7,369.9	1,893.3	877.6	764.6	113.08	7.761	
17,500.0	10,300.0	18,782.8	11,178.3	82.4	67.0	-177.33	7,446.8	1,892.9	879.7	765.6	114.14	7.707	
17,600.0	10,300.0	18,915.2	11,180.4	83.2	68.1	-177.24	7,579.1	1,890.8	881.5	765.9	115.53	7.630	
17,700.0	10,300.0	19,029.7	11,178.5	84.1	69.1	-177.15	7,693.6	1,889.1	879.8	763.0	116.80	7.532	
17,800.0	10,300.0	19,149.8	11,174.9	84.9	70.1	-177.00	7,813.6	1,886.5	877.0	758.9	118.09	7.427	
17,900.0	10,300.0	19,249.0	11,169.5	85.8	70.9	-176.90	7,912.6	1,884.9	871.6	752.2	119.34	7.303	
18,000.0	10,300.0	19,329.6	11,166.9	86.6	71.6	-176.95	7,993.1	1,885.5	868.4	747.9	120.49	7.207	
18,030.9	10,300.0	19,343.0	11,166.8	86.9	71.7	-176.96	8,006.6	1,885.6	868.0	747.2	120.81	7.185	
18,100.0	10,300.0	19,391.3	11,167.5	87.5	72.1	-176.99	8,054.9	1,885.8	869.0	747.5	121.51	7.152	
18,200.0	10,300.0	19,457.5	11,170.5	88.3	72.6	-177.05	8,121.0	1,886.3	873.3	751.0	122.38	7.136	
18,300.0	10,300.0	19,553.2	11,177.0	89.2	73.4	-177.18	8,216.4	1,887.6	880.1	756.7	123.42	7.131	
18,400.0	10,300.0	19,686.2	11,183.3	90.0	74.5	-177.34	8,349.3	1,889.3	884.7	759.9	124.75	7.092	
18,500.0	10,300.0	19,795.2	11,186.5	90.9	75.4	-177.41	8,458.2	1,889.8	887.5	761.6	125.93	7.048	
18,600.0	10,300.0	19,886.1	11,188.4	91.7	76.2	-177.50	8,549.2	1,890.7	889.7	762.7	127.00	7.006	
18,700.0	10,300.0	20,030.6	11,190.7	92.6	77.4	-177.53	8,693.5	1,890.6	891.7	763.4	128.31	6.950	
18,800.0	10,300.0	20,127.5	11,188.9	93.5	78.2	-177.56	8,790.5	1,890.8	889.8	760.4	129.48	6.873	
18,900.0	10,300.0	20,222.7	11,187.6	94.3	79.0	-177.57	8,885.6	1,890.6	888.5	757.8	130.65	6.800	
19,000.0	10,300.0	20,317.3	11,186.7	95.2	79.8	-177.57	8,980.2	1,890.3	887.5	755.7	131.84	6.732	
19,100.0	10,300.0	20,418.3	11,186.6	96.1	80.7	-177.54	9,081.3	1,889.4	887.4	754.4	133.06	6.670	
19,200.0	10,300.0	20,532.9	11,184.5	97.0	81.6	-177.58	9,195.8	1,889.7	885.5	751.3	134.24	6.596	
19,300.0	10,300.0	20,621.4	11,182.9	97.8	82.4	-177.62	9,284.3	1,890.1	883.7	748.3	135.38	6.528	
19,360.7	10,300.0	20,673.4	11,182.7	98.4	82.8	-177.64	9,336.3	1,890.2	883.4	747.4	136.07	6.492	
19,400.0	10,300.0	20,708.7	11,182.8	98.7	83.1	-177.65	9,371.6	1,890.1	883.5	747.0	136.53	6.471	
19,500.0	10,300.0	20,800.9	11,183.6	99.6	83.9	-177.61	9,463.8	1,889.2	884.4	746.7	137.73	6.422	
19,600.0	10,300.0	20,893.8	11,185.2	100.5	84.7	-177.53	9,556.7	1,887.5	886.2	747.2	138.96	6.377	
19,700.0	10,300.0	21,026.0	11,186.7	101.3	85.8	-177.38	9,688.8	1,884.7	887.7	747.3	140.40	6.323	
19,800.0	10,300.0	21,157.6	11,181.4	102.2	86.9	-177.31	9,820.3	1,883.3	883.5	741.9	141.64	6.238	
19,900.0	10,300.0	21,260.2	11,175.5	103.1	87.8	-177.21	9,922.7	1,881.7	877.8	734.9	142.92	6.142	
20,000.0	10,300.0	21,336.3	11,172.2	104.0	88.4	-177.18	9,998.8	1,881.1	873.6	729.4	144.19	6.059	
20,100.0	10,300.0	21,440.2	11,169.2	104.9	89.3	-177.24	10,102.6	1,881.8	870.6	725.3	145.34	5.990	
20,200.0	10,300.0	21,525.8	11,167.2	105.8	90.0	-177.28	10,188.2	1,882.1	868.3	721.8	146.51	5.927	
20,270.3	10,300.0	21,583.6	11,166.8	106.4	90.5	-177.30	10,245.9	1,882.2	867.8	720.5	147.31	5.891	
20,300.0	10,300.0	21,608.7	11,166.9	106.7	90.7	-177.31	10,271.1	1,882.2	867.9	720.2	147.65	5.878	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - THUNDERDOME FED COM 710H - OWB - AWP											Offset Site Error:	0.0 usft
Survey Program: 101-r.5 SDI_KPR_WL_NS-CT, 182-r.5 MWD+IFR1+SAG+FDIR, 10878-r.5 MWD+IFR1+SAG+FDIR											Offset Well Error:	3.0 usft
Rule Assigned:											Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor
20,400.0	10,300.0	21,697.7	11,168.0	107.6	91.5	-177.35	10,360.0	1,882.4	869.1	720.3	148.76	5.842
20,500.0	10,300.0	21,795.2	11,170.0	108.5	92.3	-177.38	10,457.5	1,882.4	871.1	721.2	149.94	5.810
20,600.0	10,300.0	21,903.3	11,171.7	109.4	93.2	-177.37	10,565.6	1,881.8	872.7	721.5	151.21	5.772
20,700.0	10,300.0	22,016.5	11,172.5	110.2	94.2	-177.31	10,678.8	1,880.4	873.4	720.9	152.52	5.727
20,800.0	10,300.0	22,129.6	11,170.7	111.1	95.1	-177.24	10,791.9	1,879.0	871.8	718.0	153.82	5.668
20,900.0	10,300.0	22,233.4	11,168.6	112.0	96.0	-177.17	10,895.6	1,877.6	869.9	714.8	155.10	5.609
21,000.0	10,300.0	22,343.8	11,165.4	112.9	96.9	-177.10	11,006.0	1,876.3	867.0	710.7	156.37	5.545
21,100.0	10,300.0	22,442.2	11,161.8	113.8	97.8	-177.09	11,104.3	1,876.0	863.4	705.8	157.59	5.479
21,200.0	10,300.0	22,544.0	11,158.9	114.7	98.7	-177.34	11,206.1	1,879.6	860.4	701.8	158.58	5.426
21,300.0	10,300.0	22,617.4	11,157.5	115.6	99.3	-177.59	11,279.3	1,883.0	858.3	698.7	159.57	5.379
21,307.7	10,300.0	22,621.4	11,157.5	115.7	99.3	-177.60	11,283.3	1,883.2	858.3	698.6	159.64	5.376
21,400.0	10,300.0	22,718.3	11,158.7	116.6	100.1	-177.96	11,380.0	1,888.1	859.2	698.8	160.47	5.355
21,492.3	10,300.0	22,807.4	11,158.2	117.4	100.9	-178.31	11,469.1	1,893.1	858.6	697.3	161.28	5.324
21,500.0	10,300.0	22,809.6	11,158.2	117.5	100.9	-178.32	11,471.2	1,893.2	858.6	697.3	161.34	5.322
21,600.0	10,300.0	22,890.1	11,160.0	118.4	101.6	-178.46	11,551.7	1,895.0	860.6	698.3	162.32	5.302
21,700.0	10,300.0	22,970.7	11,163.1	119.3	102.3	-178.47	11,632.2	1,894.7	864.5	701.2	163.35	5.292
21,800.0	10,300.0	23,072.0	11,168.6	120.2	103.1	-178.36	11,733.4	1,892.5	870.0	705.3	164.68	5.283
21,900.0	10,300.0	23,215.1	11,170.7	121.1	104.3	-178.19	11,876.4	1,889.3	871.1	704.7	166.36	5.236
21,930.6	10,300.0	23,245.0	11,170.6	121.4	104.6	-178.13	11,906.3	1,888.3	871.1	704.3	166.78	5.223
22,000.0	10,300.0	23,317.2	11,170.6	122.0	105.2	-177.99	11,978.4	1,885.8	871.2	703.4	167.77	5.193
22,100.0	10,300.0	23,451.0	11,167.5	122.9	106.3	-177.99	12,112.1	1,885.5	868.8	699.8	168.98	5.141
22,200.0	10,300.0	23,557.2	11,162.5	123.8	107.2	-178.12	12,218.2	1,887.2	864.0	694.0	170.06	5.081
22,300.0	10,300.0	23,654.2	11,157.9	124.7	108.1	-178.20	12,315.1	1,888.1	859.2	688.0	171.23	5.018
22,400.0	10,300.0	23,742.5	11,154.6	125.6	108.8	-178.31	12,403.4	1,889.6	855.4	683.0	172.38	4.962
22,478.7	10,300.0	23,793.5	11,153.9	126.4	109.3	-178.35	12,454.3	1,890.0	854.3	681.0	173.29	4.930
22,500.0	10,300.0	23,812.2	11,154.0	126.6	109.4	-178.36	12,473.0	1,890.1	854.3	680.8	173.53	4.923
22,600.0	10,300.0	23,912.6	11,154.6	127.5	110.3	-178.46	12,573.4	1,891.2	854.9	680.3	174.67	4.895
22,700.0	10,300.0	24,023.1	11,154.1	128.4	111.2	-178.51	12,683.9	1,891.5	854.5	678.6	175.89	4.858
22,800.0	10,300.0	24,120.2	11,153.3	129.3	112.0	-178.50	12,781.0	1,891.0	853.6	676.5	177.11	4.819
22,900.0	10,300.0	24,229.6	11,152.1	130.2	113.0	-178.42	12,890.3	1,889.4	852.6	674.1	178.43	4.778
23,000.0	10,300.0	24,328.3	11,150.4	131.1	113.8	-178.28	12,989.0	1,887.0	850.9	671.1	179.78	4.733
23,100.0	10,300.0	24,436.4	11,147.7	132.1	114.7	-177.94	13,097.0	1,881.6	848.6	667.3	181.30	4.680
23,200.0	10,300.0	24,518.2	11,146.4	133.0	115.4	-177.60	13,178.6	1,876.4	847.1	664.3	182.80	4.634
23,300.0	10,300.0	24,632.9	11,144.2	133.9	116.4	-177.08	13,293.0	1,868.3	845.5	661.0	184.54	4.582
23,400.0	10,300.0	24,723.0	11,142.5	134.8	117.2	-176.66	13,382.8	1,861.8	843.9	657.8	186.15	4.534
23,407.2	10,300.0	24,723.0	11,142.5	134.9	117.2	-176.66	13,382.8	1,861.8	843.9	657.7	186.21	4.532
23,407.2	10,300.0	24,723.0	11,142.5	134.9	117.2	-176.66	13,382.8	1,861.8	843.9	657.7	186.21	4.532 SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL @ 3243.0usft

Offset Depths are relative to Offset Datum

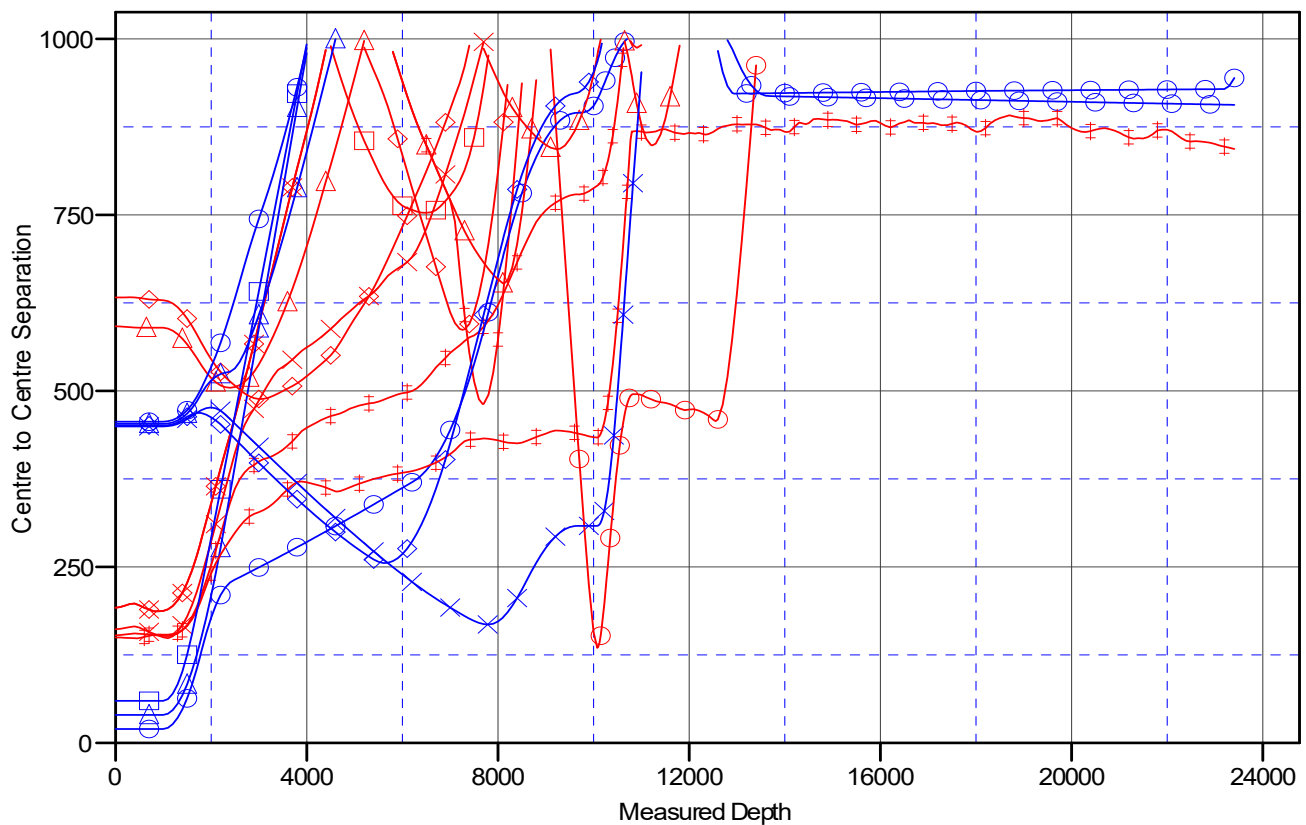
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _THUNDERDOME FED COM 523H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.26°

Ladder Plot



LEGEND

THUNDERDOME FED COM 70H, OWB, AWP V0	ROADRUNNER 23-11 HAI FEDCOM 013H, OWB, AWP V0	OHANA FEDERAL COM 501H, OWB, PWP1 V0
ROADRUNNER FEDERAL 2311 HAL 003H, OWB, AWP V0	ROADRUNNER FEDERAL COM 23 11 GBL 004H, OWB, AWP V0	SANDY FEDERAL 20H, OWB, AWP V0
FORTY NINER RIDGE 23 FEDERAL 1H, OWB, AWP V0	THUNDERDOME FED COM 83H, OWB, PWP0 V0	FURY ROAD FED COM 503H, OWB, PWP1 V0
THUNDERDOME FED COM 70H, PILOT HOLE, AWP V0	ROADRUNNER FEDERAL COM 23 ILL 005H, OWB, AWP V0	FURY ROAD FED COM 504H, OWB, PWP1 V0
THUNDERDOME FED COM 70H, ST01, AWP V0	THUNDERDOME FED COM 70H, OWB, AWP V0	FURY ROAD FED COM 522H, OWB, PWP1 V0
ROADRUNNER FEDERAL COM 23 ILL 005H, ST01, AWP V0	_THUNDERDOME FED COM 52H, OWB, PWP0 V0	FURY ROAD FED COM 523H, OWB, PWP1 V0
THUNDERDOME FED COM 70H, OWB, AWP V0	ROADRUNNER 23 11 GBI FEDCO 014H, OWB, AWP V0	
_THUNDERDOME FED COM 504H, OWB, PWP0 V0	SANDY FEDERAL 1, OWB, AWP V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _THUNDERDOME FED COM 523H
Project:	ATLAS PROSPECT (DBW)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_THUNDERDOME FED COM 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL @ 3243.0usft

Offset Depths are relative to Offset Datum

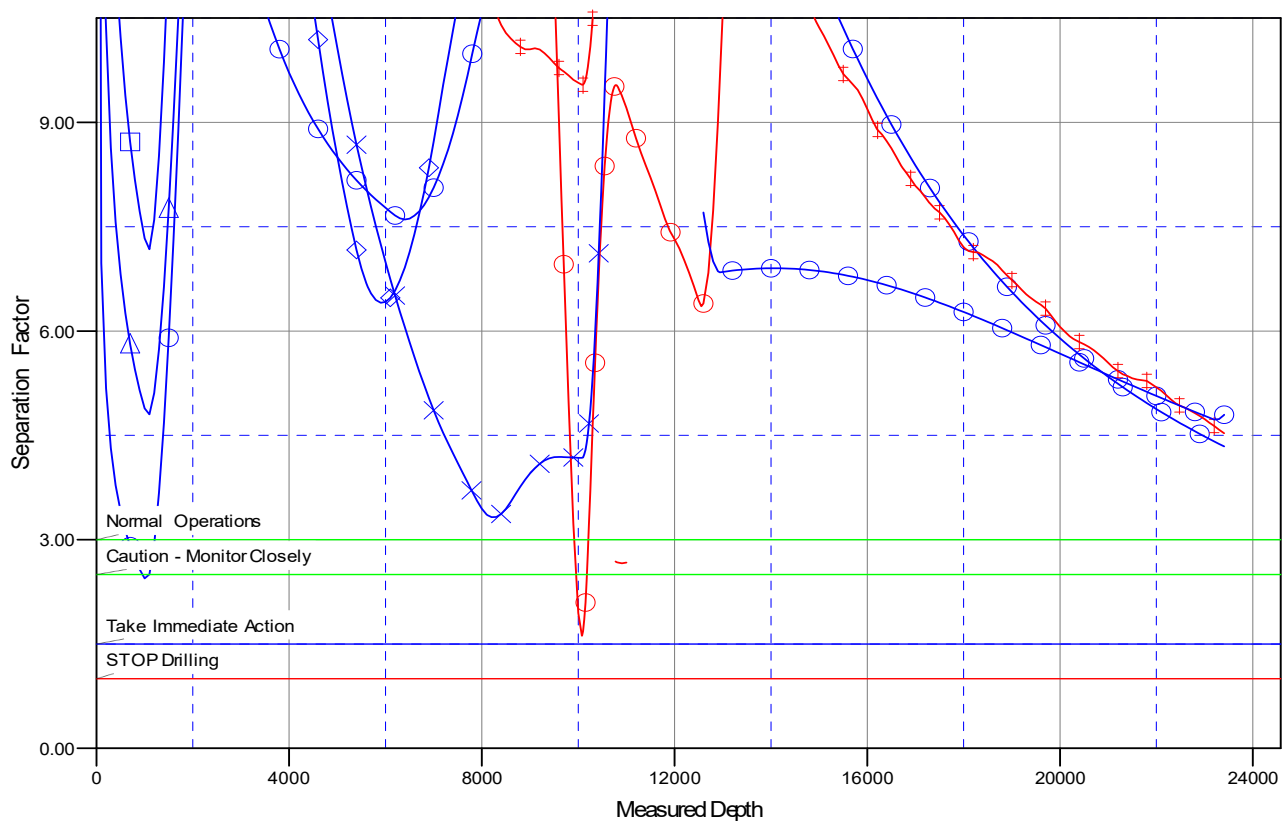
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _THUNDERDOME FED COM 523H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.26°

Separation Factor Plot



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

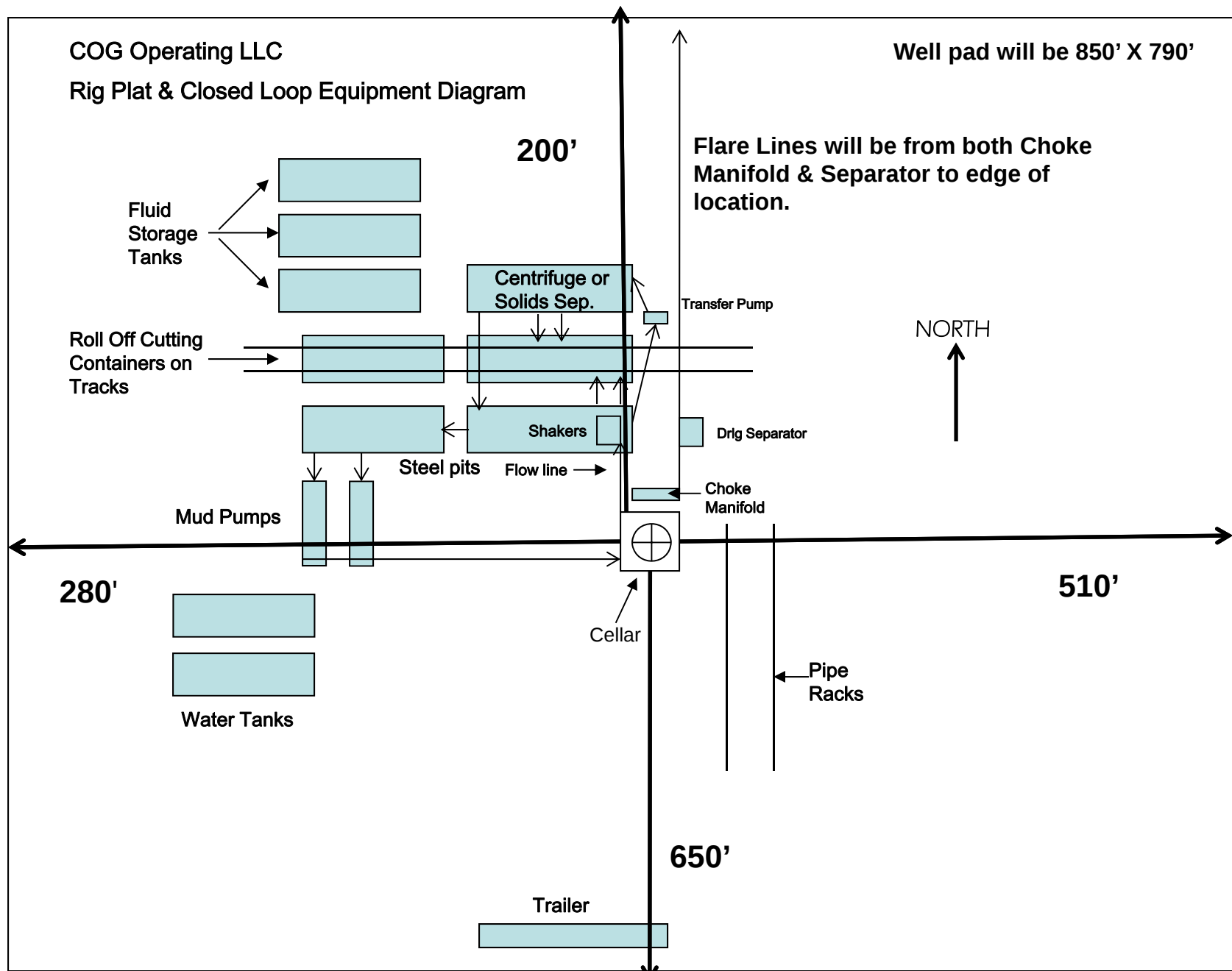


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 09/16/2025

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Thunderdome Federal Com 521H	30-015-	K-23-23S-30E	2360 FSL & 1494 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 522H	30-015-	J-23-23S-30E	2425 FSL & 2353 FFL	± 1091	± 3230	± 4172
Thunderdome Federal Com 523H	30-015-	J-23-23S-30E	2425 FSL & 2293 FFL	± 1091	± 3230	± 4172

IV. Central Delivery Point Name: CTB NENW 23-23S-30E [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Thunderdome Federal Com	Pending	± 04/1/2027	± 25 days from spud	TBD	TBD	TBD
521H, 522H, 523H						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

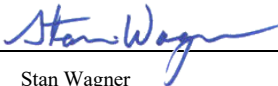
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 09/16/2025
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

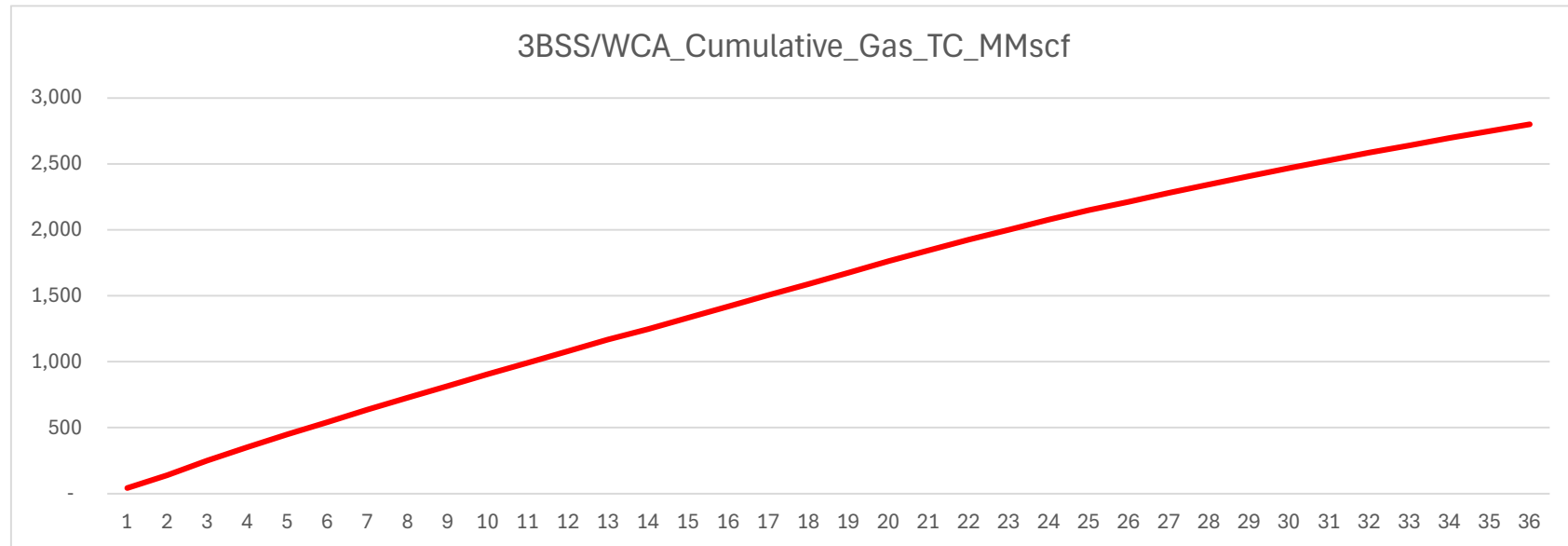
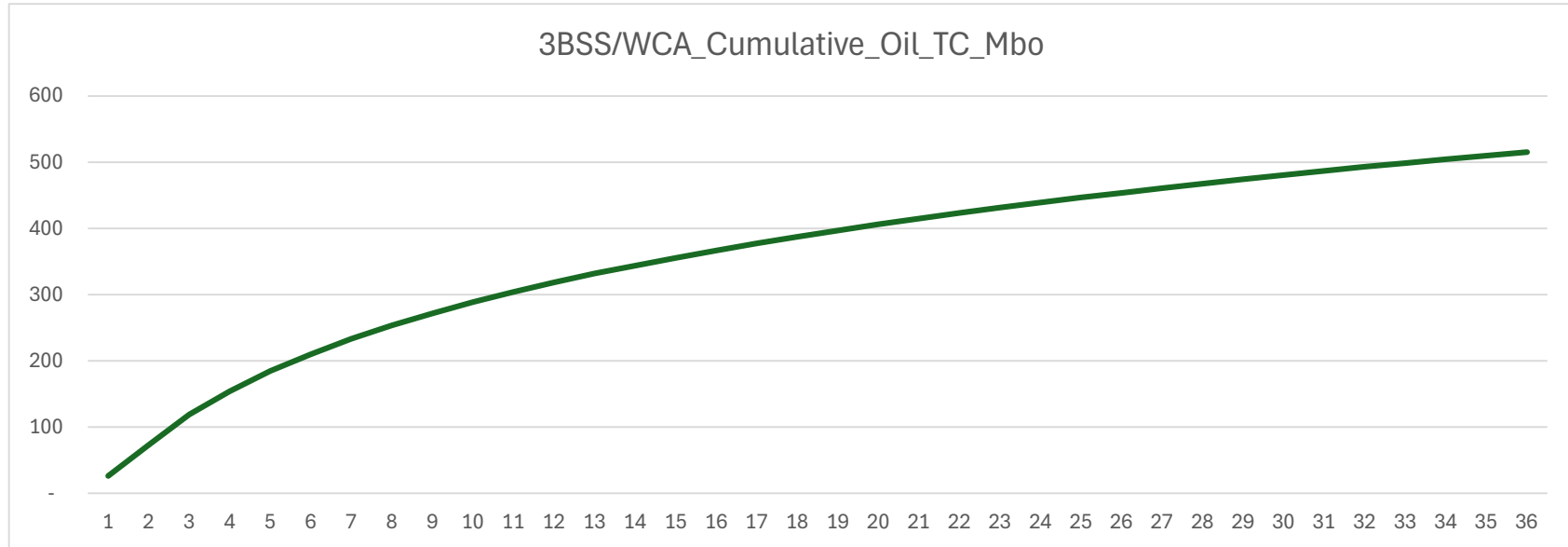
- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

Waste Minimization Plan

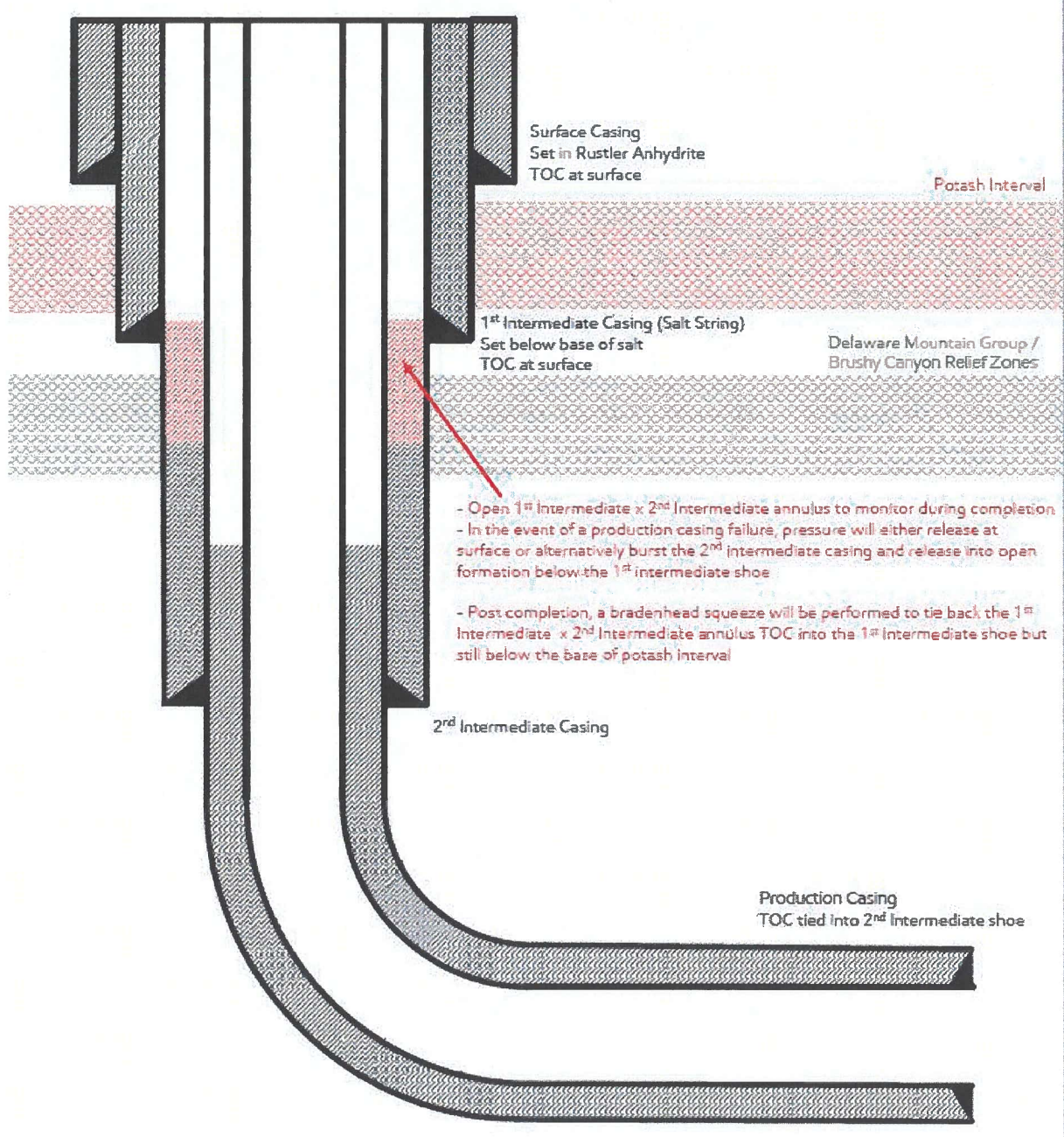
Per § 3162.3-1 Drilling applications and plans. Part J:

- (1) The anticipated initial oil production rate from the oil well and the anticipated production decline over the first 3 years of production.
 - a. See attached Anticipated Production & Decline Curve
- (2) The anticipated initial oil-well gas production rate from the oil well and the anticipated production decline over the first 3 years of production.
 - a. See attached Anticipated Production & Decline Curve
- (3) Certification that the operator has a valid, executed gas sales contract to sell to a purchaser 100 percent of the produced oil-well gas, less gas anticipated for use on-lease pursuant to 43 CFR subpart 3178.
 - a. See attached NMOCD – Natural Gas Management Plan
- (4) Any other information demonstrating the operator's plans to avoid the waste of gas production from any source, including, as appropriate, from pneumatic equipment, storage tanks, and leaks.
 - a. This location will comply with NSPS OOOOb which will include reduced associated gas flaring, non-emitting pneumatic equipment, storage tanks that are controlled and a rigorous leak detection and repair program. In addition, this facility complies with 20.2.50 NMAC (Ozone Precursor Pollutants) which also imposes standards on pneumatic equipment, tank controls, and leak detection and repair. Finally, this facility must comply with 19.15.27 NMAC (Venting and Flaring of Natural Gas) which significantly reduces instances of flaring.

Anticipated Production Decline Curve



4-String Design – Open 1st Int x 2nd Int Annulus (ICP 2 below relief zone)



[Figure D] 4 String – Uncemented annulus between 1st and 2nd Intermediate casing strings

July/August 2024: Thunderdome Sundry submitted to comply with R111Q:
ConocoPhillips is aware of R111Q order update and proposed well complies with the requirements in the order
Uses above figure from R111Q as design
All casing ran will be new that meets API standards
Fluids will be diverted away from the salt interval via the open 1st intermediate x 2nd intermediate annulus in case of production casing failure and the annulus will be monitored during frac
As in above schematic, Intermediate 2 cement and production cement will not be brought to surface (0% excess on intermediate 2 with TOC 1000' below previous shoe, 10% excess on production with enough to tie back 1000' into previous casing)
Completions will Bradenhead 1st intermediate x 2nd intermediate annulus within 180 days of frac tying back at minimum 500' into previous casing but not above Marker Bed 126
No anticollision risks < 1.5 SF will be present in salt interval

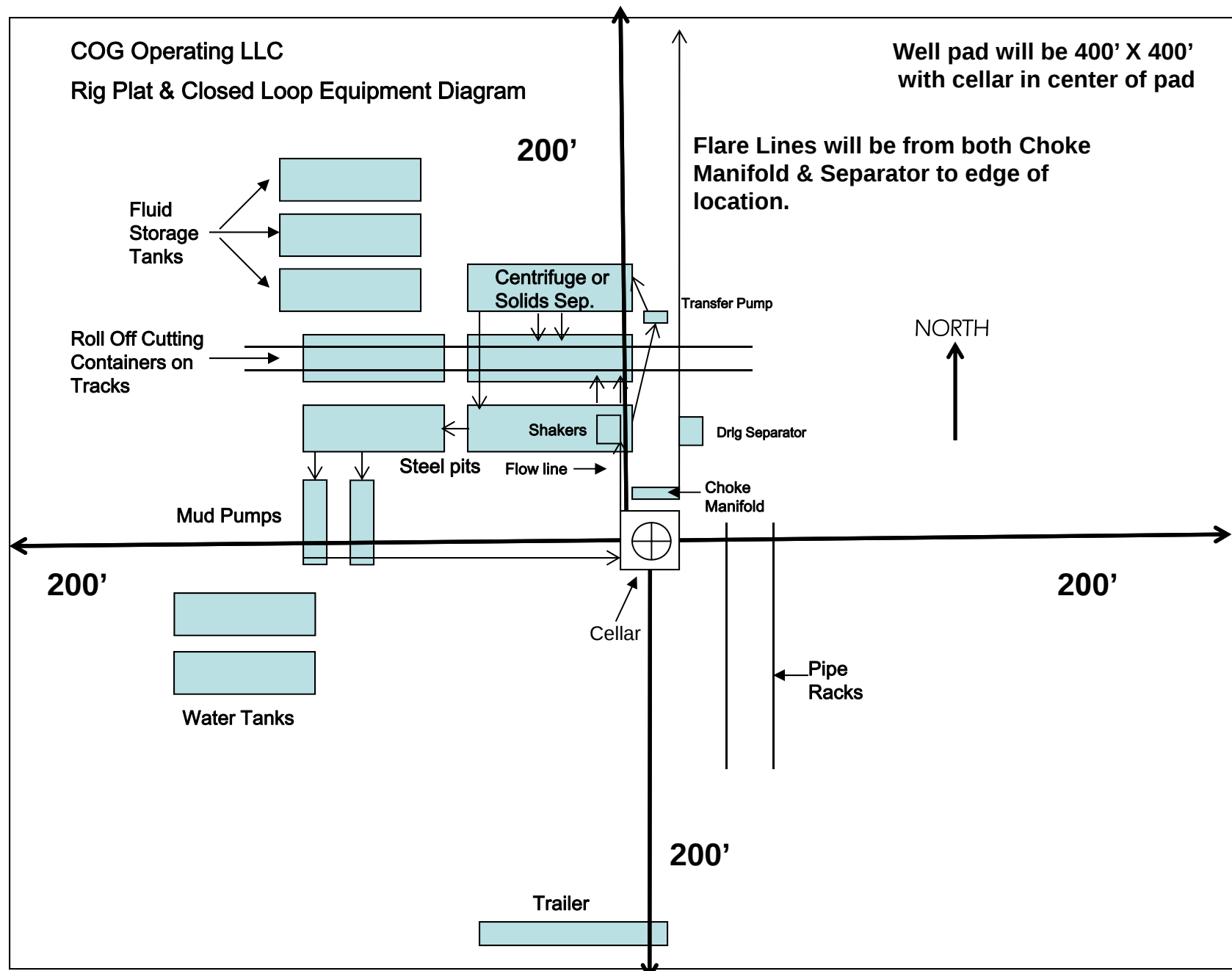


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	THUNDERDOME FED COM 523H
LOCATION:	Section 23, T.23 S., R.30 E., NMP
COUNTY:	Eddy County, New Mexico

COA

H ₂ S	☐ No	☒ Yes
Potash / WIPP	☐ None ☐ Secretary ☒ R-111-Q ☐ Open Annulus 4-String Design: Open 1st Int x 2nd Annulus (ICP 2 below Relief Zone) ☐ WIPP	
Cave / Karst	☒ Low ☐ Medium ☐ High ☐ Critical	
Wellhead	☐ Conventional ☒ Multibowl ☐ Both ☐ Diverter	
Cementing	☐ Primary Squeeze ☐ Cont. Squeeze ☒ EchoMeter ☐ DV Tool	
Special Req	☐ Capitan Reef ☐ Water Disposal ☒ COM ☐ Unit	
Waste Prev.	☐ Self-Certification ☒ Waste Min. Plan ☐ APD Submitted prior to 06/10/2024	
Additional Language	☒ Flex Hose ☒ Casing Clearance ☐ Pilot Hole ☒ Break Testing ☒ Four-String ☐ Offline Cementing ☒ Fluid-Filled	

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **200 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours**

- or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

- 3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Option 1 (Primary + Post Frac Bradenhead):

- **A monitored open annulus will be incorporated during completion by leaving the Intermediate 2 x Production annulus un-cemented and monitored inside the Intermediate String.** Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days**.

Operator has proposed to pump down **intermediate 2 x production** annulus post completion. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the intermediate 2/production casing to surface after the second stage BH to verify TOC.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.**

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).

- After bradenhead mentioned above cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
- Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
- Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Casing Clearance

- The W441 connection should tie back 500'+ into the W513 intermediate casing for clearance overlap.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate “coffee ground or less” before cementing.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
[BLM NM CFO DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV); (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less

volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the

requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation

has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a

result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JS 11/19/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/oed/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 530833

ACKNOWLEDGMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 530833
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☒	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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CONDITIONS

Action 530833

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CONDITIONS

Created By	Condition	Condition Date
stanwagner	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/1/2025
stanwagner	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/1/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	1/15/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	1/15/2026
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	1/15/2026
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	1/15/2026
ward.rikala	Operator must comply with all of the R-111-Q requirements.	1/15/2026